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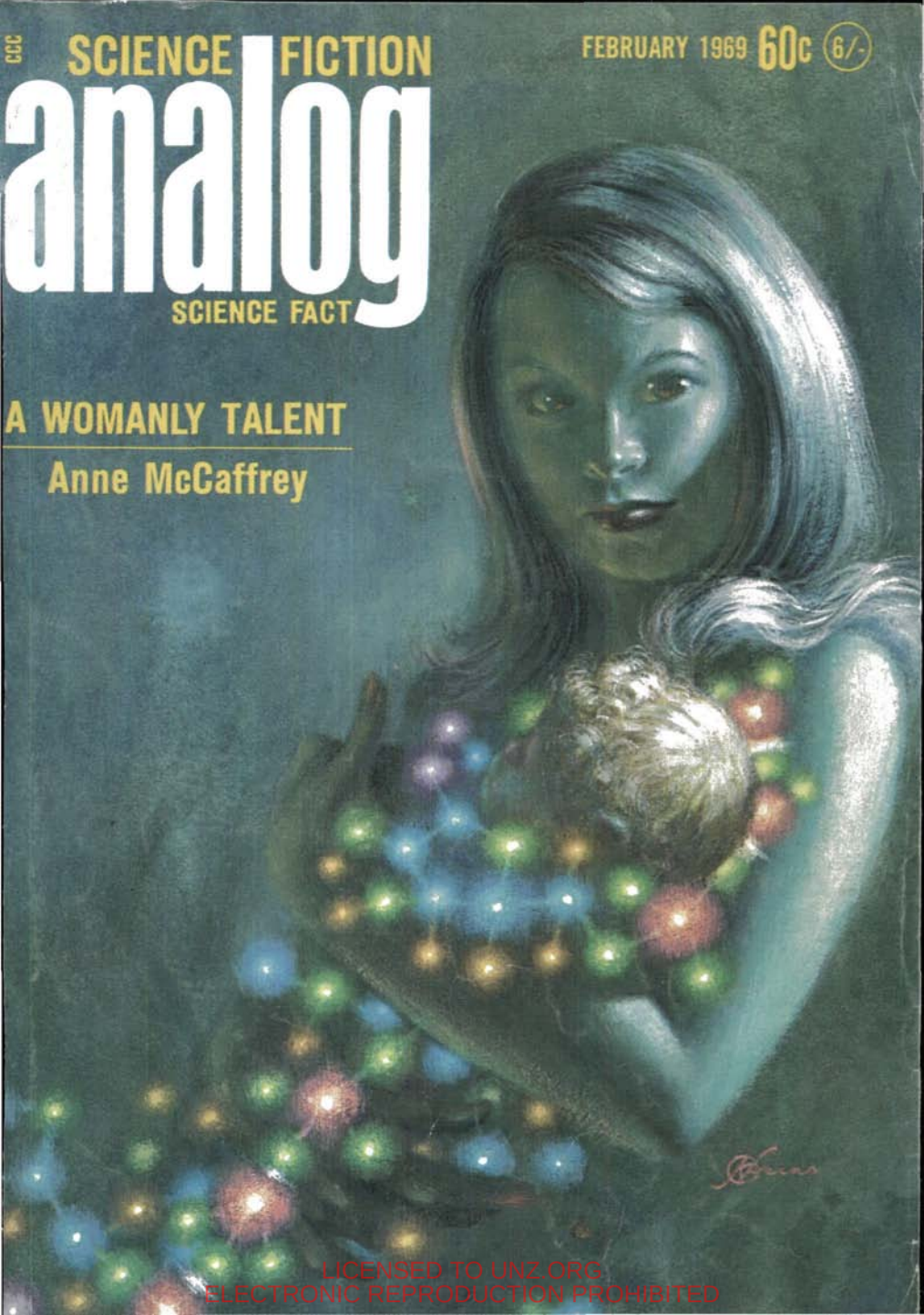
A WOMANLY TALENT

Anne McCaffrey



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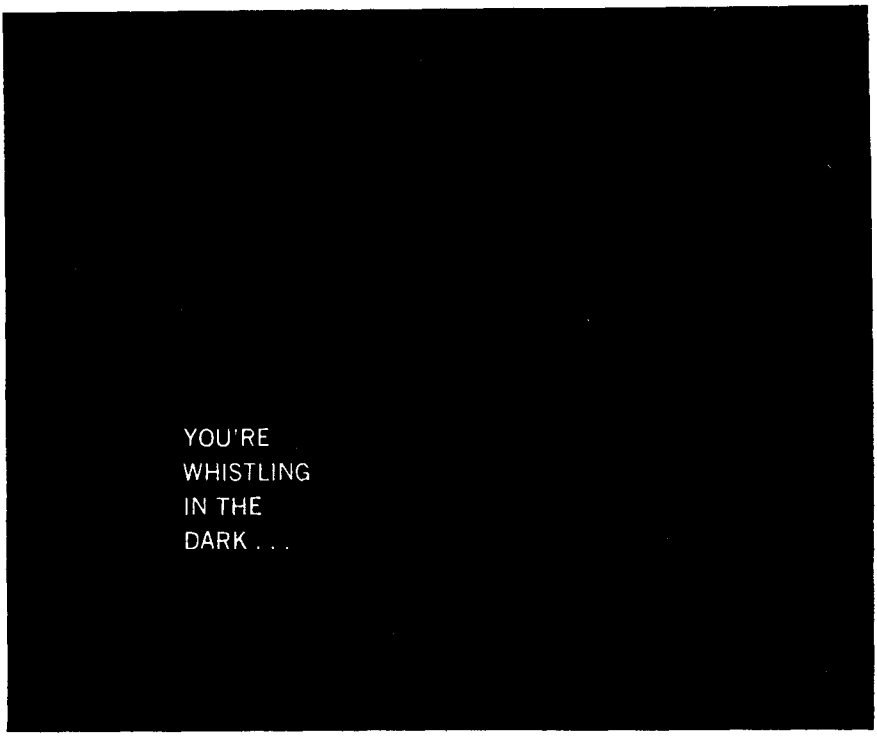

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Sensational Discovery

an editorial by
John W. Campbell

Whenever Bell Labs is mentioned, one tends to think of such things as the discovery of the transistor—the traveling-wave amplifier—Telstar or the WWII development of the magnetron. And, of course, the constantly changing technology of telephony.

There's less tendency to remember that Bell Telephone Laboratories is, and long has been, a very major source of fundamental science in all fields, from astrophysics —Solar flares can louse up communications of all known types—through zoology. (Why do squirrels gnaw holes in telephone cables, and how can they be discouraged?

The fact is that it was Bell Labs scientists who first purified Vitamin B_1. That the first successful experiments in electron diffraction, proving a theoretical postulate of fundamental physics, were carried out at Bell Labs.

Bell Labs also has a considerable staff doing purely psychological research; not clinical psychology directed to psychotherapy, but studies of the nature of human sense-brain-mind interactions.

The Bell System companies have to teach tens of thousands of employees the art and technology of installing, using, and maintaining the new developments of telephone equipment—or the equipment, however magnificent in itself, is useless.

Simple example: The Bell System companies offer the homeowner many different sizes of telephone instruments, Also, a home-intercom system is offered, which the telephone subscriber can have installed, attached to his telephone, and maintained by the Bell System. This normally means that the home will have more than two extension telephones, and there will be one of the intercom units near the front door to answer the door from any of the extension stations. Also available are the newer Touch-tone instruments, where dialing doesn't involve a dial, or waiting while the dial swings back around from the "O" position, but simply a single push on a button that generates a musical tone.

Now here we have an installer,

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who's been installing standard dial instruments for years; his experience needs to be updated so he can install Touch-tone instruments, with intercom equipment, in the newer miniaturized size, and with each instrument equipped with a "hold" setting, so that someone calling can be "held," while the telephone extension is switched into the intercom mode, and the called party is summoned to one of the other extensions. Or someone who has rung the doorbell to sell greeting cards or the like, is turned away so the telephone conversation can be resumed.

Educational psychology may not *seem* to be an important aspect of Bell Laboratories effort—but guess again!

Again, while the Bell Telephone Hour for many years offered magnificent music for the radio audience—music is an art form, hardly the proper area of research for the Bell Telephone Laboratories?

It happens that the Bell Labs has made a—quite literally!—sensational discovery. Not in the usual meaning of "sensational discovery," familiar to Madison Avenue, but in the very exact and literal meaning —a discovery concerning the nature of sensation.

Dr. Jean Claude Risset has his Ph.D. in Physics, but he started his educational work in study of piano and composition. He's currently working at Bell Labs—he's a young Frenchman, and will eventually return to France—in the computer analysis department. He demonstrated some of his work to me the other day—and I am now in the peculiar position that I have had An Experience that I cannot possibly communicate to you readers!

You surely know the difference in flavor between a tangerine and a grapefruit—but it's equally sure that you could not communicate that difference to someone who had never experienced the taste of either. There are a lot of sensations that are fully familiar, yet completely noncommunicable.

I'm in the position of having experienced something that defies all previous "knowledge," and has been experienced only by a very limited number of people. I can talk about it, but I cannot communicate its reality. And the nature of the thing is so wild, it reminds me of the impossibility of communicating, to someone who hasn't tried it, the sensations one gets when dowsing!

Dr. Risset has a series of tape recordings that have been generated by an electronic computer programmed to produce a highly specialized, mathematically designed system of wave-forms. These wave-forms are of such a nature that no natural mechano-acoustic system could generate them—i.e., no "instrument" could be designed and built to generate the waves. The accompanying drawing sug-

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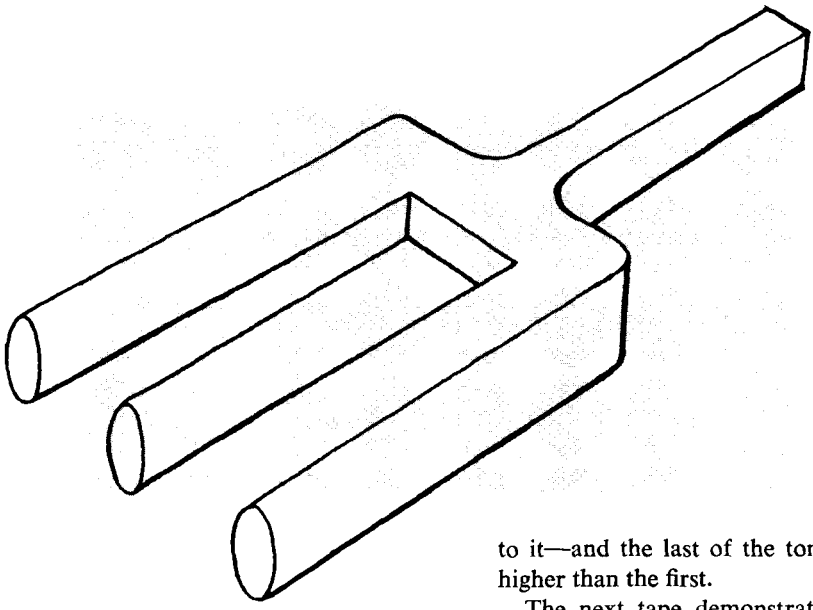

gests the sort of thing it might take to do it!

The first tape I heard seemed simple enough—a musical note, starting at about the middle range of tones, and descending in pitch through about four octaves. My impression was that it was a recording of the sounds produced by some piece of heavy machinery—a large electric motor or the like—slowing down. Seemed normal and familiar enough, a simple complex tone running steadily down the scale of pitch.

Then Dr. Risset played back the first tone and, immediately after, the last tone.

The last note was a *higher tone than the first!*

There was absolutely no question; the tone descended in pitch by a large factor when you listened to it—and the last of the tone was higher than the first.

The next tape demonstrated the essential principle in another way; it carried a *constantly* descending pitch. It descended at a rate of about an octave in five seconds or so—and kept it up indefinitely.

This is a self-evident impossibility; it would necessarily drop below the lowest tone human ears could hear in a short time.

Sorry—that's not what happened, what happened was that I experienced an unending descending pitch. As The Bard said, "Things aren't always what they seem," but as The Bard did not say, what counts to human beings is frequently the seeming rather than the reality. Particularly is that true with respect to an art form, such as music!

There are innumerable variations possible on Dr. Risset's *really* out-

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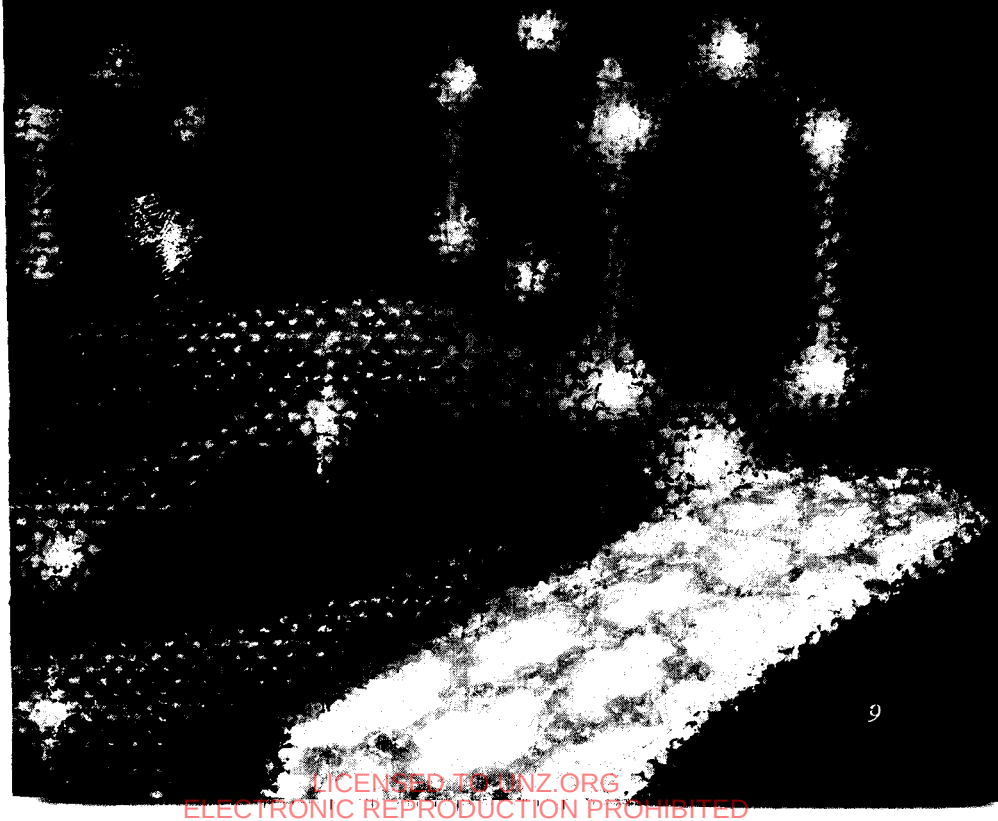
A Womanly Talent



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In a psi-talented colony, she seemed the outsider, having no measurable talent. But that, of course, depended on what you looked for . . .

BY ANNE McCAFFREY

Illustrated by Kelly Freas

"If you were one whit less honorable, Daffyd op Owen," exclaimed Joel Andres heatedly, "you and your whole Center could go . . . go fly a kinetic kite!"

The passionate senator was one of those restlessly energetic men who gave the appearance of continuous motion even in rare moments of stasis. Joel Andres was rigid now—with aggravation. The object of his frustration, Daffyd op Owen, Director of the East American Parapsychological Research and Training Center, was his antithesis, physically and emotionally. Both men, however, had the same indefinable strength and purposefulness, qualities which set them apart from lesser men.

"I can't win support for my Bill," Andres continued, trying another tack and pacing the thick-piled green carpeting of op Owen's office, "if you consistently play into Mansfield Zeusman's hands with this irrational compulsion to tell everything you know. If only on the grounds that what you 'know', is not generally acceptable as reliable 'knowledge.' "

"And don't tell me that familarity breeds contempt, Dave. The unTalented are never going to be contemptuous of the psionic abilities: they're going to continue being scared stiff. It's human nature to fear—and distrust—what is different. Surely," and Andres flung his arms wide, "you've studied enough behavorial psychology to understand that basic fact."

"My Talent permits me to look below the surface rationalizations and uncover the . . ."

"But you can*not* read the minds of every single one of the men who must vote on this Bill, Dave. Nor can you alter their thinking. Not with your thinking and your ethics!" Joel was almost contemptuous as he pointed a nicotined finger accusingly at his friend. "And don't give me the wheeze about lawmakers being intelligent, thoughtful men!"

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Op Owen smiled tolerantly at his friend, unaffected by the younger man's histrionics. "Not even when Senator Zeusman steals a march on us with that so apt quotation from Pope?"

Andres made a startled noise of exasperation, then caught the look in the other's eye and laughed.

"Yeah, he sure caught me flat-footed there.

" 'Who sees with equal eye, as God of all,
A hero perish or a sparrow fall.' " Andres had deepened his voice somewhat to mimic the affected bass of Mansfield Zeusman. "What a rallying cry! Why didn't *I* think of it first? Mind you," and Andres was deadly serious again, "that quote is pure genius . . . for the opposition. Spikes our pitch in a dozen places. The irony is that it would be just as powerful for us if we'd only thought of it first. Dave, won't you reconsider," Joel begged, leaning across the table to the telepath, "eliminating the pre-cogs from the Bill? That's what's hanging it up now in Committee. I'm sure I could get it put on . . ."

"The pre-cogs need the legal protection most of all," op Owen protested with unusual vehemence, a momentary flash of alarm crossing his face.

"I know. I know," and Andres tossed a hand ceilingward in resignation. "But that's the facet of the parapsychic that scares—and fascinates—people most."

"And that is exactly why I insist we be as candid as possible on all phases of the extrasensory perception Talents. Then people will become as used to them as to 'finders,' 'ports,' and 'paths.' "

Joel Andres whirled back to the desk, gripping the edges fiercely.

"You don't tell suspicious, frightened people everything. They automatically assume you're holding something back because *they* would. *No* one dares to be so honest anymore. Therefore, they are sure that what you're withholding is far worse than what you've readily admitted." He caught the adamant gleam in Daffyd's eye and unexpectedly capitulated. "All right. All *right*. But—I insist that we continue to emphasize what the *other* Talents are already able to do . . . *in their narrowly specialized ways*. Once people can stomach the idea that there *are* limits on individual psionic Talents, that all Talents are not mind readers cum weight throwers cum fire dowsers cum crystal-ball-seers all rolled up into one frightening package, they'll start treating them as you want Talents treated: as professional specialists, trained in one area of a varied profession and entitled to professional immunity in that area *if* they are licensed and registered with the Centers. *Don't,*" and the hand went up again as Daffyd tried to interrupt, "tell them you're experimenting to find out how to

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broaden every Talented mind. *Don't* ask for the whole piece of bread with jam on it, Dave! You won't get it, but you will get protection for your people in the practice of their specialty, even your pre-cogs. I'll bear down heavily on the scientific corroboration of authentic foresights," and Andres began to pace a tight rectangle in front of op Owen's desk, his dark head down, his gestures incisive, "the use of computers to correlate details and estimate reliability of data, the fact that sometimes three and four pre-cogs come up with the same incident, seen from different angles. And most importantly—that the Center never issues an official warning unless the computer agrees that sufficient data coincides between Incident and reality . . ."

"Please emphasize that we admit to human fallibility and use computers to limit *human* error."

Joel frowned at op Owen's droll interjection. "Then I'll show how the foresight prevented or averted, the worst of the Incidents. That Monterey Quake is a heaven-sent example. No heroes perished, even if a few sparrows did fall from gas discharges."

"I thought it was the meddling with the sparrow's fall that perturbs Senator Zeusman," Daffyd remarked wryly. "For want of that seed, the grain won't sprout . . ."

"Hm-m-m, yes, it does!" Andres agreed. " 'What will be, will be' " and he mimicked Zeusman's voice again.

"Since he initiated Pope, I'd reply 'Whatever is, is right.' "

"You want me to turn Papist now, huh?" Joel grinned wickedly.

Daffyd chuckled as he continued, "Pope also advises, 'Be candid where we can but vindicate the ways of God to man!' "

The gently delivered quote had an instant effect on the senator, comparable to touching a match to a one-second fuse. Midway to explosion, Andres snapped his mouth shut, sighed extravagantly and rolled his slightly yellowed eyes heavenwards.

"You are the most difficult man to help, Daffyd op Owen!"

"That's only because I'm aware how carefully we must move in the promulgation of this Bill, Joel. I don't want it backfiring at the wrong time, when some of the basic research now in progress becomes demonstrable. The Talents can't be hamstrung by obsolete statutes imperfectly realized on a scrabbling compromise basis."

"Dave, you want to run before you can walk?"

"No, but trouble has been foreseen."

"Ah-ha, hoist you on your own petard," and Joel waggled a finger triumphantly. "Trouble stemming from current nonprotection. Go cast up a pre-cog *after* the Bill is passed."

"Ah-ha," Dave mimicked Joel

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now, "but we don't see the Bill passing!"

That rendered Andres speechless.

"And we are hoist on our own petard," the telepath continued with a hint of sorrowful resignation in his voice, "because all our preventative methods *are* affecting the future; unfortunately, much as Senator Zeusman presented the syndrome in his Sparrow's Fall peroration. That was such a masterful speech," op Owen interjected ruefully. "Valid, too, for as surely as the Center issues a warning, allowing people a chance to avert or prevent tragedy, they have already prejudiced the events from happening as they were foreseen. That's the paradox. Yet how, *how* can ethical man stand aside and let a hero perish, let a sparrow fall, when he *knows* he can prevent unnecessary loss."

"The Monterey Quake could *not* have been prevented," Joel reminded him, then blinked in amazement. "You're not holding out on *me*, are you? You haven't found a telekinetic strong enough to hold the earth's surface together?"

Dave's laughter was a spontaneous outburst of delight at his friend's alarm.

"No, no. At least . . . not yet," he amended just to watch the outraged expression on Andres's mobile face. There were few people with whom Daffyd op Owen could relax or indulge in his flights of humor and hyperbole. "Seriously, Joel, the Monterey Quake is a spectacular Incident and a prime example of the concerted use of Talent, minimizing the loss of life or property. We have never had so many pre-cogs stimulated in their separate affinities. And it's the most concrete example of why pre-cogs need legal protection. Do you realize that Western Center was deluged with damage suits for the tsunami that followed?"

"*That* was predictable."

"But *we* issued no warnings. And it's against such irrational attitudes that pre-cogs need legal protection more than any other Talent. Theirs is stimulated by mental perceptions as erratic as a smell in the morning air, a glance at a photo, the sound of a name. In a sense, pre-cog is tremendously unreliable because it cannot be used as consciously as telepathy, teleportation, and telekinesis. And to protect the Talent as well as the Center, we insist on computer corroboration when details are coherently specific. We never issue a public warning until the computer admits reliability . . . and we get damned because we have 'heard' and not spoken. Of course, a number of our pre-cogs have become absorbed into business where peculiar affinities place them. For instance," and Daffyd held up a tape-file, "this young man, who's applying for progeny-approval, is fire-conscious.

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But he's one reason this city has such low fire-insurance rates: his Talent prevents them—a blessing indirectly passed on to every resident . . ."

"Hm-m-m, but scarcely spectacular enough to register with the average egocentric Joe Citizen," Andres interjected sourly. He was restless with Daffyd's earnest review of facts he knew well. "However, every little bit helps, Dave, and the public moves a lot faster pro bona pocketbook."

"True, exactly true, and they get rather nasty when we try to save them money and will not understand that a legitimate forewarning automatically alters the future, even to the point of preventing the foreseen Incident, which will have cost old publican money, or time, or effort he *then* feels was unnecessary."

"And there we are, right back at the real hangup," Joel announced flatly. "That is what Mansfield calls 'meddling' and what makes him fight this Bill with every ounce of his outraged moralistic, neo-religious, mock-ethical fiber. Remember, he's backed by the transport lobbies, and every time one of your pre-cogs hits that jolly little brotherhood, causing delays, hurried inspections, the whole jazz—you got a number one headache. Because, when the predictions don't happen as predicted, Transport swears your meddling is superstitious interference, uncalled for, unnecessary and nothing would have happened anyway."

Daffyd sighed wearily. "How many times have we found bombs? Fuel leaks? Metal fatigue . . . *mechanical* justifications?"

"Doesn't signify, Dave, not if it touches the pocketbook of the Transport Companies. Remember, every pre-cog implies fault: human or mechanical, since the Companies will not recognize Providence as a force. And human or mechanical, the public loses faith in the Company thus stigmatized. When Company profits are hit, Company gets mad, sues the pre-cog for defamation of character, interference, et cetera."

"Then we are to allow the traveling public to fry in their own juice or be spread across the fields because a pre-cog has seen a crash but doesn't want to offend a Company? For want of a screw the mail was lost!" op Owen's usually soothing voice was rough with asperity. "Damn it, Joel, we have to preserve impartiality, and warn any one or anything that is touched by the precognitive Talent or we do usurp the position of the Almighty by withholding that evidence. I don't care if the transportation companies then decide to disregard the warning—that's their problem. But I want my people protected when, in good faith and based on computer-accepted detail, they issue that warning. We have no ax to grind, commercially,

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thanks to our endowment and member support, but we must continue to be impartial."

"I hope that your altruism is not going to be your downfall," Joel remarked, his manner unusually grave.

"There's been no warning that it will," Daffyd retorted. A hint of irritation in his voice.

"You're too honest to be up against us crooked politicians," Joel grinned back, then glanced at his watch. "Wup. Gotta go."

"You push yourself too hard, Joel. You don't look well."

"A bit liverish, that's all, and no snooping."

"Not without permission and you know it."

"Hah. Among friends I don't trust telepaths. Say, how's the recruiting program?" he asked as he swooped up his travel cape and case.

"We get hopefuls every week," the director remarked as he escorted the senator to the elevator. "Sometimes we even catch a few young ones, before they learn to suppress a perfectly normal ability."

"That's another phrase you should delete around Zeusman," Joel advised. "He will not buy your premise that every mind has psionic Talent."

"But, Joel, that is scientifically valid. We know that those who possess Talent have strong, healthy twenty-first chromosome pairs. It is certainly admissible evidence that when the twenty-first pair is blurred, or damaged, to any degree, brain function is inhibited. And, in those cases where one of the pair is missing, you have mental retardation. Downs' Syndrome was established in the mid-nineteen hundreds."

"Don't argue with me," Joel advised with widened eyes of innocence. "I believe you. I always have, ever since that 'finder' located my brother in the mine shaft before he bled to death. If we could only subject Zeusman to such an experience, he wouldn't be so skeptical. Can't one of your pet Talents do something about that? I thought they always keep an eye on controversial men to prevent assassination and stuff."

Op Owen gave a wry snort. "Would Senator Zeusman honor a pre-cog foreseeing his own demise?"

"Hm-m-m. Probably not. Say, you're not funded on the Government Research Program, are you?"

"No, thank God. All private funds. Why?"

"Hm-m-m. Just that Zeusman is extending this argument against the Bill to all 'specious'—as he terms it—forms of research, government funded. And spring is appropriations time, you know."

"No, we've always avoided that pressure."

"Talented of you," Joel grinned.

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Behind him the elevator door slid open and a young woman, obviously in a hurry, ran out, right into the muscular frame of the young senator.

"Oh, I'm so sorry," she blurted out, flushing with embarrassed confusion as Andres reached out to steady her. Her eyes opened wider as she saw op Owen, one hand flying to her mouth. "I'm so awfully sorry, sir."

Just as Daffyd recognized Ruth Horvath, he also identified her combined emotions of shame at her precipitous arrival, regret for her impulsiveness in coming to the Tower at this hour and the underlying hope and apprehension that had compelled her to come. Instinctively, Daffyd touched her with soothing reassurances; but Joel Andres's amiable and admiring grin was the tonic the pretty woman needed.

"No harm done, I assure you, Miss . . . ?"

Daffyd chuckled wickedly as he introduced them and watched Joel's expression change from delighted interest to flattering chagrin. "*Mrs.* Horvath . . . Senator Andres."

"*The* Senator Andres?" Ruth Horvath gasped, her cheeks blush-stained again.

"Unquestionably," Joel laughed and bowed deeply to Ruth, reluctantly stepping aside to let her pass.

Instead she pressed the elevator button.

"I'm on my lunch break, she stammered. "I've got to get back."

The door opened again and Andres stepped in beside her, one finger jamming the Hold button.

"Me, too," he grinned down at her.

"Your file is on my desk right now, Ruth," Daffyd said hurriedly, suddenly understanding the reason for her visit and her insecurity in mentioning the subject in front of Andres. "I'll call you tomorrow."

Her face lit up, her eyes danced with hopefulness and as she glanced away, Daffyd thought he saw the shine of tears.

"Take care of yourself, Joel, you're working too hard . . ."

"A pleasure, I assure you," Joel's laugh was cut off by the closing door.

Daffyd op Owen stood looking at the mute panel for a few moments before he turned slowly back to his isolated tower office. He had much to think about. Not that he would deflect one centimeter from his course of action. Only his firm beliefs sustained him for it didn't require pre-cog, only intelligent extrapolation—which some uninformed people insisted was the essence of pre-cog—to determine the difficulties still faced by the Talented all over the world. The Bill was so vital a forward step, raising the Talents from the onerous category of "mental chiropractors," Senator Zeusman's phrase, to a creditable

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position among professional abilities. Zeusman had already stalled the Bill in Committee for months, was capable of stalling it through the summer, and keeping it off the agenda next year. Zeusman was hoping to find some discrediting Incident that would forever banish hope of legal protection for the Talented.

The sheer genius of that Pope quotation was a measure of their opponent's worth, op Owen mused as he turned to the mass of administrative files awaiting him. The pity of it was that the quote would have been much more applicable to the Talent side of the argument. Come to think of it, much of Pope's "Essay on Man" was to the point.

Other pertinent lines came easily out of mental storage. Not much that Daffyd op Owen had once seen could elude his recall . . . a blessing as well as a curse.

"With too much knowledge for the Skeptic side,
With too much weakness for the Stoic's pride,
He hangs between, in doubt to act or rest;
In doubt to deem himself a God or Beast;
In doubt his mind or body to prefer
Born but to die, and reas'ning but to err . . ."

"Enough!" and op Owen roused from introspection to direction. He flipped open the nearest tape and slapped it into the playback. It seemed somehow meet that it was the Horvaths' progeny application. Were op Owen a superstitious man he could have accounted it a good omen: a favorable auspice for the work he and his fellow directors around the world were inaugurating. Breed like to like, strengthen strong genetic Talent traits and develop, not the super race of omniscient, omnipotent superpeople Zeusman basically feared, but people trained and conditioned from childhood to use their Talents for the benefit of man. And, by such service, force the World to recognize the treasure that can be unlocked in the unused, untapped portion of the human brain.

A flaming, shattering pre-cog caught Lajos Horvath at the moment when r.e.m. sleep was over and his unconscious mind was rousing from that phase of rest.

His groan of anguish woke his wife instantly. With the reflex of training, Ruth flipped the recorder and pulled the retractable electrode net to his head, expertly clamping the metal disks on the circles of his scalp that had been permanently depilated.

Blinking her eyes to see the reading in the dawn-dim room, Ruth watched the definite pattern of an Incident emerge. Center was already picking it up for authentication. The Incident lasted a scant eleven seconds before the brain

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waves settled back to "calm." She lay back, going through the discipline that would relax her and prevent her from imposing her haste-urgency reaction on Lajos. As soon as he roused, she must be composed enough to question him for a verbal report.

She achieved the proper repose quickly, suppressing even the thrill of satisfaction at her success. She was no longer troubled with flashes of envy that Lajos possessed a valid Talent while hers was so nebulous as to elude identification. Now it was enough for her to know that, by the exercise of the deep empathy which existed between them, by her womanliness, she made his development more certain. Lajos needed her as a buffer, a source of solace from the sharp edges of his Talent. Even the strongest personality could succumb to the Cassandra complex that destroyed the sanity of the unwary pre-cog. Why was it, Ruth mused in a quiet inner voice, that tragedy has such a vicious way of reaching out of the mists of the future: like a falling man, blindly grabbing at anything to restore balance and avert his fall?

Again the needle rushed across the graph, a slight *whoosh* barely audible in the quiet room. Ruth glanced over to make sure the Incident was being beamed to the Center and noticed the smile on her husband's face. A smile? A happy premonition? She forced herself to relax, unaccountably assailed by a raving curiosity. Lajos so rarely had happy foresights and fleetingly she regretted that he was a pre-cog.

Lajos stirred restlessly. He was waking now. She turned on the voice recorder and leaned towards him.

"What is it? What do you see?" she asked in the soft persuasive voice the Center had taught her to use at these times. Her ability to stimulate his verbal accounts was highly praised at the Center, for it was sometimes difficult for the pre-cog to articulate the semi-real into sufficient detail for preventive or supportive action.

"Flames!" Lajos groaned. "Must it always be flames?" He sat bolt upright in bed, then, his brown eyes wide as he stared straight ahead at the retinal image of his premonitory vision. The electrodes were jerked from his skull, retracting with a metallic clink into the case. "The ship's burning, exploding. Throwing flaming debris across the harbor into the suburbs. Damp it! Deflect! Shield those passengers! Watch out! The propellant will spray. It's exploding. Contain it!"

"Markings on the liner," a gentle but insistent voice whispered from the intercom.

Lajos shook his head, blinking furiously in an attempt to hold the fading sight. "It's awash with flame. I see an eight, a four, a three—or is it another eight? It's

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a Reynarder. It must be. They're the only ones who use that class."

"Which class?" the inexorable whisper demanded.

Suddenly Lajos sagged, panting with shock, cold sweat breaking out on his forehead. He lay back exhausted.

"It's gone," he moaned. "It's gone."

"You had a second one," Ruth murmured. "What was that about?"

Lajos's brows drew together in a half-frown as he brushed his straight black hair back. He kept it overlong to hide the depilated circles where the electrodes fit. His lips curved in a half-sided smile. "Something good?" he suggested ruefully.

Ruth suppressed her sigh. Lajos rarely detailed the happier ones.

"Incident validated, a strong reading, Lajos," the voice on the intercom was firm and impersonal now. "Report in as soon as you're able."

"They'll check it out, won't they?" Lajos asked needlessly.

"Action already initiated," he was assured.

Lajos lay so still that Ruth knew it was not passive quiescence but rigid strain. Another thorn in the Talented's side was the harsh realization that their warnings were often disregarded and they were forced to see their predictions come horribly true. Gently she wiped the sweat from Lajos's forehead and began to massage his neck and shoulders. After a moment he grinned weakly up at her.

"What a way to start the day, huh?" he murmured.

"At least you ended on a happy note this time. Maybe that means they'll prevent."

"If they can correlate enough data, in enough time" he amended gloomily, "and Reynarder *listens!*" He flopped over onto his stomach, pounding the mattress with impotent fists.

Ruth transferred her attention to his muscular back. She loved the line of him, the broad double plateau of his shoulder blades with the small mounds of hard muscle, the graceful curve that swept down to the narrow waist, the hollow of his spine, the Grecian beauty of his buttocks. She quickly suppressed a flare of desire. This was not the time to intrude sex on his personal anguish. And she knew that her intense sexual hunger for him stemmed from a yearning for the child of his seed. A daughter, tall and fair, with Lajos's dimples in her cheek. A son, strong-backed and arrogant, with thick black straight hair.

This hunger for his child was so primal, it paralyzed the sophistication overlaid by education and social reflexes. Nowadays a woman was expected to assume more than the ancient duties required of her. Nowadays, and Ruth smiled to herself, the sophists called those womanly talents Maintenance, Repair

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and Replacement, instead of housekeeping/cooking, nursing and having babies but the titles didn't alter the duties nor curb the resurgent desires. And, when you got down to it, men still explored new ground, even if it were alien ground, and defended their homes and families. You could call Lajos's pre-cog kind of an early-warning defense system. Well, then, she'd added the chore of being Cerebral-Recording Secretary to Maintenance and Repair and they'd better let her Replace soon or . . .

She concentrated on more soothing thoughts, using her latent empathy to ease his remorse. When he began to take long deep breaths, she knew he was conquering the aftermath of the Incident, dispelling its destructive despondency. He had done everything he could. He could *not* change the course of every fated life. Some events had to come to their dire conclusions: for, out of present tragedy so often rose future triumph; the result of sorrowful recriminations was often the catalyst of progress. A specious rationale in the Silver-lined Cloud Approach, but true enough to save the sanity of the Talented.

It was such a bitter thing, Ruth understood, to be Talented: bitter and wonderful. But it was completely bitter to have evidence of Talent and never know what it was. Nonsense, she told herself sternly, discarding those reflections, you can't be what you can't be.

"Ahh, you're hitting the right spot," Lajos moaned gratefully and she doubled her efforts across the heavy shoulder muscles.

And yet, when she anticipated his desires and needs, sometimes the words from his mouth, she wondered just how she had tapped that need: just what might awaken the occluded Talent within her.

The Center believed that psionic abilities were latent human characteristics: their absence due to malfunction of the necessary brain synapses or, even more basically, under-developed due to a protein lock in the gene. When chromosomes in the twenty-first pair were damaged or blurred, no Talent was detected. There was no aberration in Ruth's chromosome pairs, and although she tested as Talented, her ability was unidentifiable. She had never been able to stimulate an Incident involving any of the known abilities.

However, during this testing she had met Lajos: they'd been approached by the Eastern American Center after finishing their secondary schooling and had qualified for the six-months' training designed to stimulate latent Talent. Their genetic history had been taped back to the third generation. They had endured hours of cerebral recording under a variety of stimuli. Ruth was finally labeled indeterminate: Lajos showed strong pre-cog tendencies.

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Ruth still secretly hoped that her Talent might eventually develop. She'd been assured that this was a possibility: they cited to her her high empathy rating, her ability to anticipate attitudes and actions of those nearest and best known to her. True, she might be no more than a receptive telepath, one unable to broadcast but able to receive. Ruth, therefore, alternated between hope and despair; being a practical creature, she dwelt mostly on the pessimistic side of the pendulum, refusing to believe anything but the most conclusive evidence. This attitude was strengthened during Lajos's worst Incidents when she wanted no part of this cruel gift.

Lajos Horvath was one of several thousand Talented people, licensed and registered with the Center: devoted to its precepts and ideals, contributing most of his salary to it. The Center was not paternalistic nor did it require any recompense. But the Talented preferred to live together, on the Center's grounds, among their peers: reassured, and reinforced. As the Center "policed" its own members, it also protected them.

Ruth had no specific objections to their situation: she had willingly taken the course orienting unTalented partners to their gifted spouses. She would have undergone a far more arduous requirement had it been asked of her, so deep was her love for Lajos. But, lately, obedience to E.A.C. had begun to gall Ruth and it was not due to any fault of E.A.'s. She even recognized that.

The muted buzz of the intercom roused them both. Lajos propped himself up on his elbows, his profile towards her so that she saw the thin, bitter line of his mouth and knew he was steeling himself.

"Lajos," it was Daffyd op Owen himself, "you were correct. A Class 7 Reynarder had a propellant leak at Buffalo jetport."

Something in the director's slow deep voice told them that Lajos's information had not averted.

"And?" Lajos's question was a firm demand for the truth.

"We had to compute the variable details with the possible airports near water, flights landing or departing on the Reynarder lines. We got only one other personal pre-cog involving the incident but your data alone—particularly the registry—was sufficient. The loss would have been catastrophic without your warning. Teleports on the Rescue Squad deflected most of the flaming wreckage into the Lake before it could land in the suburbs. Kinetics managed to shield the passenger deck until the propellant could be foamed over. The passengers and crew suffered massive heat prostration but all will live. Ruth, does he need a tranquilizer?"

"No!" the negative exploded from Lajos's lips.

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"Good lad!" op Owen's voice was warm with approval. "We've authenticated the Incident. It averted a major tragedy: one more pound of evidence on our side of the scales for the Bill. And the passengers and jetport personnel *know* who gave the warning."

Lajos went limp with relief as the Director signed off with expressions of gratitude. Lajos's face was averted and Ruth didn't know for a moment whether to comfort him or not. She waited. Finally he gave a long, shuddering sigh and relaxed, one hand slipping over the side of the bed, fingers limp, the veins in his forearm bulging, blue under his unusually fair skin.

"Then what I saw—didn't happen, Ruth. The jet didn't turn into a flaming hull, exploding all over the suburbs. So what did I see? Which didn't happen because I saw it? Because my seeing it was sufficient to alter the future?" He shook his head, his beard stubble rasping against the tightly drawn bedsheet, but his voice was no longer hoarse with recrimination: it was calm; his philosophy was asserting itself.

Ruth felt the muscles in her shoulders unknot and only then realized how tense she had become, waiting for him to unwind.

" 'A paradox, a paradox, a most ingenious paradox,' " she chanted lightly, stroking his back with her fingertips. "My darling pirate," and kissed his cheek.

Lajos bounced out of bed and stretched, his sleep-pants falling off his narrow hips. He grabbed them back up, not out of modesty but to keep from tripping over them on the way to the bathroom.

"Maybe the good pre-cog you had . . . it followed a bare sixty seconds after the first, you know," Ruth commented later as she served him breakfast, "was the realization that you had averted."

Lajos thought about that, then shook his head briskly. "No. The two were definitely non-associated."

"Why is it," Ruth demanded with mock shrewishness, "that you can detail the horrors but not the happies?"

He shruggged and ate heartily, his appetite indicative of restored tranquility.

"Got to run, honey. Be a busy day. And that's no pre-cog. It's just a sure thing," he grinned as he kissed her soundly. "Annual review of contracts and Zeusman notwithstanding, the Firm handles the government's."

Ruth'd have to hurry as well. She disliked being late although her job was hardly essential. She fitted filaments to fractional feeders, an intricate, delicate operation which required deft hands even with waldo-aid, and a certain tenacious patience with micro-movements. Her employers never questioned her occasional delays as they employed teleports and telekinetics

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for the transportation of delicate equipment and to assemble by remote control the "hot" components of instrumentation to be used in the Jupiter probes. Ruth did not need to work, for Lajos was highly paid, but she preferred to keep busy until their request for progeny was approved. She wanted so to be a full-time mother.

There was unlikely to be a problem in receiving approval—eventually—but anyone was liable to pick up a dose of accidental radiation that could blur or damage chromosomes. They knew their genetic patterns were sound and they had completed the three years' probation to establish the compatibility and stability of their marriage. For the last six months they had undergone continuous egg and sperm cell check for possible aberrations. It was time-consuming, but who wanted a handicapped child? It had taken years to weed out the psychedelic damages that had resulted in the freaks of the late Seventies and early Eighties. There were still occasional mutants as a result of the heavy Solar Winds in the first decade of the twenty-first century. It was only common sense to check every variable.

But Ruth found it hard to be patient. She asked for very little of what her heritage had once seemed to offer. She didn't mind being an unidentifiable Talent, she had adjusted to it. She didn't really mind the often worrisome role of a passive observer to the mental agonies of Lajos's perceptions: she loved him and she helped him. She did mind the growing sense of futility. Nowadays with shelter and food assured one, with the excitement of space explorations to capture the imagination, with leisure to develop interests and hobbies, everyone had the opportunity to use their full capabilities: yet she was constantly frustrated. If only she could be a full woman to Lajos, not just caring for him, but raising his children, preferably his Talented children! She would do everything in her power to make sure they would succeed where she had failed.

On his firm's table of organization, Lajos Horvath was listed as a "Contract Analyst and Underwriter" of the Eastern Headquarters of the Insurance Company. Conservative in so many respects, the insurance field had been one of the first major industries to see the advantages of staff "pre-cogs"; particularly one such as Lajos whose accuracy in fire-hazard control had been established beyond question.

Most of his pre-cognitive Incidents dealt with flaming substances, as other pre-cogs seemed to have reliable affinities for water, autos, metals or certain types of personalities. There was a friendly debate within the Center as to whether "finders" were pre-cogs or clairvoyants, but they had affinity for

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"lost items," organic and inorganic. There were four in Lajos's firm, and represented huge annual savings for their employers.

Once Lajos's pre-cogs would have been ascribed to "astuteness" or "hunches" or "shrewd extrapolations." Indeed, he himself was perfectly willing to put the vaguer apprehensions under that generality. But training and sensitivity had sharpened many "hunches" into definitive perceptions: Check the cellar of that building for undesirable refuse, the janitor is lazy and has not discarded all possible combustibles. The wiring in the attic of that dwelling is frayed and the owners tend to overload their circuits with appliances. Sometimes the Incident was sustained: This building will be vandalized, fire is involved. The police were then requested to keep that building under surveillance. The mere fact of surveillance was sufficient to prevent the breaking and entering Lajos had predicted but the Company had long ago learned not to protest the measures suggested by their perceptives. Insurers are accustomed to statistics, and Talents saved them too much in claims. Sometimes, as that morning, Lajos would experience a general alarm, touched off by the imminence of a violent fire, or a sudden flaring of fire-danger resulting from a vehicular crash. There were days when nothing activated his Talent. And days, of which this was one, when everything seemed to smell vaguely of smoke or be wreathed in ghostly flames. He had to censor half a dozen false impressions by checking them against the small office EEG. He had learned to differentiate the valid pre-cogs: that was why he was licensed and registered by the Center.

He finished the pile of contracts, noting those about which he experienced the twinge-hesitation that indicated a future review would be wise. On his way home, he suddenly felt a lightness of spirit, an ebullience quite unaccountable after his strenuous day. He didn't try to analyze it, too delighted with the relief to want to question the source. But, as soon as he opened his door, Ruth raced into his arms.

"We've been approved as parents," she cried, clasping him tightly to her in an excess of elation. "Director op Owen himself called me just a few minutes ago. *You* ought to have been home when he called."

"Which proves that op Owen is no pre-cog," Lajos chuckled, pressing her soft slenderness tightly to him and burying his lips against the curve of her neck. "That's an anodyne for this morning."

"Why for this morning?" she asked, pulling back and searching his face with worried eyes.

"Oh, it's all right, sweetie, but he knew I'd hear all the details. Reynarder Inc. was warned the instant my Incident identified the ship but

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they refused to issue a blanket halt on all outgoing and incoming vessels with those numerals in their registry. Reynarder's money is back of the Transport Lobby that supports Zeusman, you know. They *can't* admit that Incidents, backed by cerebral variations, computer-sorted, validated by the Center are NOT superstitious nonsense. But a lot of people 'check out' flights nowadays with a licensed 'pre-cog'."

"Well, companies like Reynarder deserve what they get!"

"Hey, we can afford not to be petty. And besides, I want to talk about us; about our child. What'll we have first? Boy or girl?"

Ruth became stiff in his arms and pulled back to look her husband straight in the eye.

"Do we have to specify? Does it have to be pre-determined?" she asked in a small voice, aware even as the words popped out that she sounded resentful. "Oh, I don't mean it that way. It's just that when you pre-determine, it takes away all the mystery that's left to motherhood."

"Ruthie," and Lajos's tender, teasing voice thrilled her, "You're a real recessive. O.K., we'll just let nature take its course."

"Can't we eat first?"

Lajos threw back his head and laughed boyishly at her deliberate coquetry. He hugged her until he heard her ribs crack and her dinner sizzling.

It was a magical night. Ruth responded to lovemaking with an ardor that astounded her husband: a surrender that left him breathless and not a little awed; as if, sloughing off the onus of contraceptive interference, she could allow herself to be touched to the depths of her being.

If the quality of their loving had anything to do with the final product, their child ought to be a perfect human, Lajos thought as they finally fell asleep in each other's arms. There was no guarantee that conception occurred that night. In fact, Lajos hoped it hadn't if Ruth would react like this until she did conceive.

Shortly, however, it was apparent that conception had occurred. Ruth developed a luminous beauty that touched everything around her with harmony. Jerry Frames, the Center's resident physician, with a healing talent, privately told op Owen that the foetus was female and that Ruth was healthy and would experience no problems.

The girl weighed seven pounds and three ounces at birth and was immediately christened the Little Princess by the nursery staff in the Center's hospital. Her parents named her Dorotea and were utterly besotted with her miniature perfection, her pink-and-gold beauty. They were oblivious to the curious stares and whispered comments of the staff. It was Ruth, preternaturally sensitive to anything regard-

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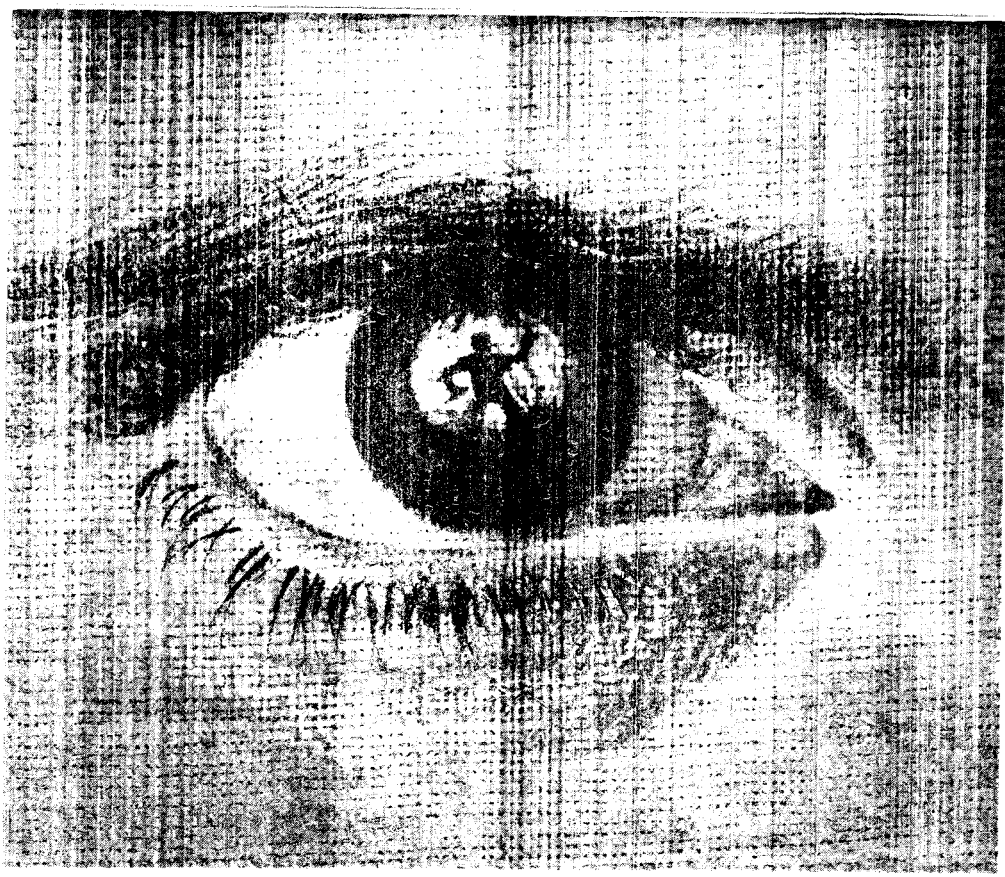

ing her daughter, who began to notice the surreptitious glances, the cluster of people constantly near her daughter's nursery crib.

"You're hiding something from me," she accused Jerry Frames bluntly. "There's something wrong with Dorotea."

"There's not a thing wrong with her, Ruth," Jerry retorted sharply and thrust the baby's chart at her. "You've enough pediatrics to read the medical notations. Go ahead."

Ruth scanned the chart quickly, then reread it word and graph, checking the laboratory reports of body function, the cerebral and cardiac readings, even the nourishment intake and eliminations. There was definitely nothing abnormal about Dorotea. Even her chromosome mapping was XY, healthy/normal. Reassured, Ruth passed the clipboard back and, smiling confidently, continued to nurse her child.

Frames later said that he'd had a moment of pure panic because he couldn't remember how much genetic training Ruth had had or would remember. Op Owen as-

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sured him his instinctive impulse had been the only possible course under the circumstances.

"It's exceedingly fortunate, though, Jerry," the director mused, his eyes active with speculation, "that they are already under Center protection. That child must have every guard and check we can provide. I want equipment installed in her nursery, tuned to her pattern day and night. If what we suspect is correct, it may manifest itself in her first six months. Can you imagine the strides we can make in formulating an early childhood program with such a superb example?"

"A pure case of doing what comes naturally."

"Nothing must interfere with that child's development."

"I still don't see why we've kept it from the parents. Are you stepping down from your 'know-all, tell-all' pedestal after all?"

Op Owen returned the physician's sardonic look.

"I'm not a pre-cog, but I felt a strong reluctance to inform Lajos."

"Why? He'd be walking nine feet tall to think he produced such a Talented child."

"Haven't we changed sides, Jerry?"

"It's one thing to withhold information from the unwashed public, but another to clam up on one of the gang."

"We don't know positively that Dorotea Horvath is . . ."

"Come off it, Dave. Cecily King is a strong t.p. and she *heard* that child protest birth. Oh, I know, some of 'em can cry out in the womb but this was no physical cry or it would have been audible to the rest of the delivery room personnel. Is your stumbling block Ruth Horvath?"

Op Owen nodded slowly.

"Well, that makes a little more sense although I'd say she'd welcome her daughter's Talent. A kind of vindication that she's never been identified. Unless you call the transmission of strong genetic traits a Talent."

Op Owen shook his head, his lips pursed in thought. "She has wanted a child desperately. As a mother wants a child: not as a Talented person wants evidence of succession." He spoke slowly, the words dragged out of his mouth as if he were sorting his thoughts. "Lajos says that although Ruth is a great help and very understanding, sometimes his Incidents bother her more than she admits. Let's just let things take their course. We'll keep an eye on them."

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"What they don't know, won't hurt 'em, huh?" Frames sighed. "Wish you'd let that attitude spill over into other areas, Dave."

Op Owen regarded the doctor intently. "I can conceivably bend a little privately, for the benefit of those under my care, but I cannot as easily rationalize on the broader issue which I cannot oversee or control."

"All right, Dave, but I feel, and Joel Andres feels, that private reactions are a strong basis for predicting public ones. You're reluctant to tell Ruth Horvath, a girl conditioned and trained to accept Talent, that her child shows exceedingly strong telepathic Talent. You willingly want to broadcast information that even frightens me, and I'm Talented, to a public that is in no way conditioned to accept a fragment of that knowledge. The two attitudes cannot be reconciled."

"The ethical position of the Talented must never be questioned."

"Dave," Jerry entreated him, "*you* are unable to be unethical. The withholding of prejudicial knowledge is not unethical; it's plain good ol' common sense. Which you are sensibly applying in Ruth Horvath's case. How many times I have considered telling a patient he's bought it and how few times have I actually come clean. Very few people can stand the whole, complete, unvarnished truth."

Op Owen sighed, reflecting resignation as well as frustration.

"I hang between, in doubt to act or rest," he murmured.

"What's that?"

"I apologize, Jerry. Your point is well taken. I've erred on the side of the angels, I hope, but this attitude of mine towards Ruth Horvath *is* a curious vacillation from my tendency to be forthright. Yet I know that there is a reason to be slightly devious in her case."

"Then you'll ease back on this all-open-and-above-board routine?"

"Yes, I'll 'ease back' as you put it."

"Still," and Jerry frowned slightly, "it isn't as if they won't find out soon enough." He meant the Horvaths.

"They need time to get used to the idea." Op Owen was thinking about humanity.

"Where on earth did she get those blue eyes?" Lajos demanded as he sat entranced by his three-months old daughter's attempts to capture her toes. She flopped over, gurgling cheerfully to herself.

"Heavens, it's possible," Ruth replied, beaming foolishly as she caught her daughter's eye. "I may be gray-eyed and you, brown but we both have ancesters, four generations back, with blue eyes."

"I always said you were recessive, hon," Lajos teased.

"Humph. I don't mind in the least, not if it produces a blue-eyed

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blond daughter with dimples. And I've got her, haven't I, love? You're all mine."

"Except the twenty-two chromosomes from me."

Dorotea twisted her head backwards over her shoulder and burbled moistly at her mother.

"Love at first bite," Lajos muttered with mock surliness. "There's a conspiracy of females against me, poor lone male."

Dorotea impartially gurgled at him, her eyes bright and wide and happy.

"You never had it so good."

And Lajos privately admitted the truth of that. Ruth was so enthralled with her daughter, their apartment had a noticeable atmosphere of benevolence. He was more relaxed than ever and, despite an increase in Incidents, extending beyond his usual affinity, he suffered less from the depressions and exhaustion that were the inevitable postlude.

The day Dorotea's Talent blossomed, Daffyd op Owen was reviewing the records obtained overtly and covertly from the Horvath apartment. He'd had Lester Welch, his electronic chief, rig a buried web in Ruth's mattress, in case the baby instinctively contacted her mother first. However, Lester had pointed out the slight variation occurring in Ruth's readings. It was more as if the needle had snagged itself on an imperfection in the graph paper. There was no such variation on the baby's recordings. Welch had been about to discredit the occurrences until he checked them against Lajos's, and discovered that the minute variations in Ruth's chart always occurred exactly at the onset of Lajos's Incidents.

"She might well be a latent 'receiver'," op Owen suggested to Welch, "only now beginning to develop from continued proximity to her husband and the advent of the child. I can't present another explanation."

"I hope you're right, Dave. Ruth's a nice little person; cheerful, intelligent and crazy for her husband and child. Just the sort of well-balanced, understanding parent to have for a . . ."

Lester stared at op Owen's retreating back. The man had leaped to his feet, raced down the hall to the recording room. Lester Welch was not Talented although his electronic engineering was often sheer inventive genius but op Owen didn't act like that without good cause. When Welch reached the doorway, he saw Charlie, the day engineer, hunched over the console, unconscious.

"Take a close look at the Horvath child's graph," op Owen advised, grinning fit to pop his jaw, as he passed his associate on his way out.

Common sense told op Owen that, despite the urgency of that

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summons, there could be no danger threatening the baby. Yet he could not disregard that call. What could have happened, he wondered as he ran down the front steps. Suddenly he noticed that there seemed to be a mass exodus from all parts of the building. And everyone was headed in the same direction. As abruptly as the call had been broadcast, it ended. People slowed down, stopped, looked around, grinning foolishly.

"What was that?" "Who called?" "Wot hoppened?"

"It's all right," Op Owen found himself reassuring them. "A new technique improperly shielded," he murmured to other telepaths. And grinned at his own dissembling as he continued towards the building which housed the Horvaths.

There was a crowd in the hall before their apartment. Probably the residents of the building, op Owen thought as he politely pushed his way through. Dorotea, her baby face still tear-streaked, was held high in her mother's arms, cooing and chorlting at the smiling faces around her. Op Owen's arrival signaled the crowd's discreet dispersal and shortly, he was alone with the mortified mother.

"I'm so embarrassed, sir," Ruth explained, jiggling her baby as she walked nervously up and down her living room. "I fell asleep with the tape recorder blaring away. And I just . . . didn't hear Dorotea wake up . . . I've never done such a thing before and we've never permitted her to cry long . . ."

"No one is remotely suggesting that you mistreat Dorotea," and he smiled as the baby flirted delightedly with him. "In fact, a little honest frustration is very useful. It certainly placed her Talent."

"Ooooooooh," and Ruth collapsed on the sofa, staring wide-eyed at Daffyd op Owen as she absorbed the implication which she had been too pre-occupied with calming Dorotea to see.

"She broadcast a *very* loud signal. I shouldn't be at all surprised if every Talent in the city heard her."

No sooner were the words out of his mouth than Lajos charged through the door.

"What happened to her? How did she get hurt? My head aches!" Lajos demanded, snatching Dorotea up from her mother's lap. She began to whimper, catching his anxiety.

"Only her feelings were hurt," Ruth explained, suddenly very calm. Op Owen noticed that with approval: she was dampening her own distress to soothe the others. "I'd fallen asleep with the tape-recorder blasting away and just didn't hear her when she woke up hungry and all damp." She took her daughter back, rocking her briefly until the baby began to beam again. "She was hurt because she felt she was being ignored, isn't that right, sweetie?"

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"Well, good God," Lajos exclaimed, sinking onto the couch and moping his forehead, "I never heard anything like it before. Sir," and he turned to op Owen, "look, this can't . . . I mean, can this sort of thing occur every time my daughter's upset?"

"Oh, I'm sure she'll protest many assumed indignities, Lajos. Babies have to suffer some frustrations to grow. We'll just move you all to a shielded apartment and dampen down that lovely loud young voice."

"You're not surprised about Dorotea at all," Ruth observed, regarding op Owen with round, suspicious eyes. "So that's why everyone was so excited about her in the nursery."

"Well, yes," the Director agreed slowly. "She was heard by the t.p. nurse at birth."

"But I thought psionic Talents don't usually show up until adolescence . . ."

"Conscious Talent," op Owen corrected her.

Ruth looked down at the drooling baby in her arms. A strained look crossed her pretty face. "But I want Dorotea to have a normal, happy childhood," Ruth blurted out anxiously.

"And she won't because she's Talented? Is that it, my dear?" Op Owen asked kindly, almost sadly as he remembered his instinct about telling Ruth. "Except for this ability, which might as well be drawing freehand, she *is* a normal, healthy child, totally unaware that she is in any way remarkable."

"But I know you'll want to test her, and all that, with stimuli . . ." Her distress was so acute she couldn't go on.

"Ruth!" Lajos cried out and bent to comfort her. She clutched her daughter tightly to her.

"My dear Ruth," op Owen reassured her gently, "testing and stimuli are for people who come to us after they have subverted and suppressed their Talents. We know what she is already, a very strong telepath. And we've been 'testing' her, as you call it, already. As for stimuli, I assure you," and there was nothing forced in op Owen's chuckle, "*she's* applying the stimuli to us!"

Lajos laughed, too, brushing his hair back from his forehead as he remembered his frantic homeward drive. Beneath his arm, he could feel Ruth relax. A slight smile touched her lips.

"Dorotea will have an unusual opportunity, my dear. One denied you and Lajos, and myself, and so many other potential Talents. She has the chance to grow up in her Talent, learning to use it as naturally as she learns to walk and talk. We will all help her to understand it . . . as much as we do ourselves," he added with a wry smile. "To be candid, Ruth, we are in much the same position as your daughter. We are all learning

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to act in a publicly acceptable fashion with this new facet of human evolution. Psionic Talents are in their infancy, too, you know.

"You might even extend the analogy a little to include the Andres Bill which we hope will afford all Talents professional status and legal protection. We, in effect, must prove to the public, our parent-body, if you wish, that we are not 'bad', 'naughty' or 'capricious' children. Dorotea has already contributed something to that end," and op Owen caught himself before he explained his own revelation. "Dorotea needs love and reassurance, discipline and understanding. She'll pick that up from you, with your warmth and sweetness, Ruth. I want her, possibly more than you do, to have a normal, happy childhood, so that she will be a normal, happy adult."

He rose then, smiling at the baby's infectious gaiety.

"See, she knows how pleased we are with her right now, the little rascal."

Op Owen left, assuring them new quarters within the week. Ruth was so quiet and thoughtful, that Lajos remained home the rest of the day. He found the revelation of Dorotea's Talent as much a shock as Ruth apparently did. However, by morning, he was consumed with a paternal pride and, in the succeeding days, discovered an overweening tendency to maunder on about his daughter's prowess. By the time they moved to the larger, shielded apartment, he was accustomed to the notion and, since Dorotea made no more frantic summonses, succeeded in ignoring it. Until he noticed the gradual change in Ruth. At first, it was no more than a sudden frown, quickly erased, or a nervous look towards the baby's room if she slept longer than usual. Then he caught Ruth looking at her child with that wary expression he had once privately called "the Freak Look," which unTalented people occasionally directed at him when they discovered his affiliation with the Center.

"You've got to stop that, honey," he blurted out. "You've got to keep thinking . . . strongly . . . that Dorotea is just like other kids. Or you'll prejudice her. Which is the one thing we want to avoid."

Ruth vehemently denied the accusation but she turned so white around the lips that Lajos gathered her quickly into his arms.

"Ah, sweetie, she hasn't changed just because we've found out she's Talented. But she *is* perceptive and she can sense your feelings towards her. You start suppressing the 'freak-feeling' right now. You think positively that she's our beautiful baby girl, sweet and loving, kind and thoughtful. She'll have that opinion of herself and it won't matter that she's a strong t.p. as well. She'll merely consider

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that part of the whole bit. It's when she senses criticism and restraint and hypocrisy that we'll be in trouble. I had to get used to it, too, Ruthie. Say," and he tilted her chin up and grinned down at her reassuringly, "why don't we get a little help from op Owen? Talk this over with him. He can put a block on if you need one."

The very suggestion that she couldn't love and understand her own child made Ruth indignant. She'd had years of parent training. She understood every phase of early childhood development. She adored Dorotea and she certainly wouldn't do a thing that might jeopardize her daughter's happiness. They both felt better after such a candid discussion and the problem was dismissed.

"Sir, I thought you ought to see the Horvath charts," Lester Welch told op Owen. "A variation keeps appearing in Ruth Horvath's. See?" and Welch unrolled the paper, pointing again and again to the almost imperceptible alteration in the normal pattern. "See, here and here, it's a couple of microseconds longer and broader. It begins to broaden minutely until it hits this frame which has remained constant. Now, compare her time-sequence to Lajos's . . . and remember we're picking up her pattern anywhere in the new apartment, just as we pick his up from the office."

Op Owen saw the correlation immediately.

"He's finished no pre-cog in six weeks?"

Welch contented himself with a nod as op Owen studied the problem.

"If I didn't think it was impossible, I'd say Ruth was suppressing him. But how?"

"Don't you mean why?"

"That, too, of course, but 'how' is the bigger question."

"If you mean the type of pattern, Dave, I can't give you that. There isn't enough to identify it as a known variation."

"That wasn't exactly what I meant although I would like a magnification of this to study. Can you put on a more sensitive gauge, or a faster needle, to lengthen the stroke?"

"Hm-m-m," Welch considered the suggestion. "I'll rig something up."

Op Owen chuckled. "One of the comforting things about you, Les, is your unfailing rise to the challenge. I don't believe you know what failure is."

Welch regarded his superior with some surprise. "Failure is an inability to consider what is not presently known. Like Ruth Horvath's variation?"

Les added with a sly grin, "Or Senator Zeusman's strategy?"

Op Owen dismissed that with a wave of his hand, scanning Lajos Horvath's recordings.

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"Hm-m-m. Dorotea's first Incident rocked him."

"Yes, it does show up in his sleep pattern as unusual restlessness but see, he calms down by the third night."

"Yes, but it's from that date that his pre-cogs begin to dwindle."

"He's too stable to deviate for that."

"Yes, he's been too consistent a pre-cog. I think I'll call him in, drop a few leading questions and see what reaction I get." Op Owen initiated the call then and there.

"There's nothing wrong with Dorotea, is there, sir?" Lajos asked as soon as he entered the office.

"Good heavens, no," Daffyd op Owen assured him, gesturing Lajos to a chair.

"It's about my drop in Incidents, then, isn't it?"

Op Owen eyed his young colleague for a moment, savoring the peripheral emotions the man was generating. It took no Talent to recognize the defensive nervousness in Lajos's attitude.

"Not exactly. There are always periods of rest for pre-cogs, caused by any number of valid reasons, including the absence of fires. However, your graphs show an onset of Incidents, broken off just as they begin."

"Once or twice in the office, I've felt as if something was preventing me . . ."

"Preventing you . . ." op Owen prompted when Lajos broke off, startled at his own phrasing.

"Yes, sir," he agreed slowly. "It's as if something's preventing me from pre-viewing. Sort of like . . . glancing into a strange room and having the door slammed in your face."

"Aptly put. Could you suggest why . . . or perhaps, what . . . is preventing you?"

"You think it's a psychological suppression, don't you?"

"Frankly, that is the first thought."

Indignation and disbelief were Lajos's obvious reaction.

"Why would I want to suppress suddenly?"

"Something you yourself don't *want* to see. Pre-cog is not the easiest of Talents, Lajos," op Owen said soothingly. "Often the pre-cog imposes his own block, as a relief from the psychological pressures."

"If you think there's a chance I'm developing the Cassandra complex . . ." Lajos was heatedly indignant now.

"No, that follows an entirely different pattern."

"Dorotea's preventing me?"

"If this occurred only in your home environment, possibly. But it's improbable. Her room is shielded to protect her from overtones of your pre-cogs as much as to protect us from her blatant calls."

"Ruth?" Lajos's hushed exclamation had the power of a shout. "She is Talented, after all," he

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added as he grasped the natural conclusion. "But why suppress mine? She loves me. I know she does. She's always helped with Incidents. It made her feel a part . . ." he stared at op Owen. "No. I don't see why suppressing me would . . . do her any good."

"Has something else upset her? This suppression starts not long after Dorotea's first Incident."

Lajos covered his eyes, groaning deeply. He collected himself almost immediately and, looking up at op Owen, recounted Ruth's brief uncertainty over Dorotea.

"Yes, I see what has possibly happened. She's made you her whipping boy."

"Now wait a minute, sir, Ruth's not petty, nor is she vindictive."

"I'm not for a moment implying she is, Lajos. Let us both try to see her conflicts. She's had to make so many adjustments. She had such hopes when she entered the training program. I remember her cheerfulness and vivacity so well. It was difficult to have to disillusion her. You two married and she has exhibited skill in helping you. But even the most generous soul experiences twinges of envy. She looked forward to maternity as an outlet for her natural inclination and the assuagement of her own failures. But suddenly she finds herself with this extraordinary daughter who makes even the Director of the Center jump at her command." Lajos weakly returned op Owen's smile. "I thought at the time she was very much distressed at the thought of relinquishing any of Dorotea's care to our impersonal toils. I don't believe we entirely relieved her fear that the Center will usurp her role in her daughter's upbringing. Can you see why she may be *indirectly* punishing you for circumstances that threaten her happiness?"

"Yes, I can," Lajos murmured dejectedly.

"Now, it's not as bad as that," op Owen replied firmly. "In fact, stop feeling guilty and look at the very positive side—Ruth has actually been able to suppress your strong Talent."

"And that's positive?"

"Yes. The underlying problem is Ruth's lack of Talent. But she has one! She has superbly demonstrated it. Severe frustration often breaks down mental blocks. And she's had that."

"Of course," Lajos exclaimed, his whole face lighting up again. "Whoa. You said she doesn't know she's doing it?"

"I've proof for her. And the further proof will be the renewal of your pre-cogs. I'll have a talk with her and straighten this out today."

He made the call as Lajos left. There was more to the problem of Ruth Horvath than touched the little family. *If you don't tell all you know, how much is enough?* op Owen wondered.

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"All right, I'm forced to believe you," Ruth said, her defensiveness waning, for she could not deny the evidence of the graphs; of that remarkable, infinitesimal variation that had to be an Incident.

Daffyd op Owen felt himself begin to relax. He had known it would be a stormy confrontation: one reason why he had not delayed it. Ruth had been appalled by the knowledge that she had subconsciously blocked Lajos. She finally admitted that Dorotea scared her: that she had lost all joy in her daughter and was terrified of predisposing the child towards her.

"Yes, I have to believe you," she repeated sadly, not bothering to stifle her resentment, "but it's a pretty poor excuse of a Talent," she added bitterly. "if all I can do is block my husband's and not even know I'm doing it."

"On the contrary, Ruth," op Owen protested laughingly, "it's exactly the one you need the most . . . applied properly."

Ruth glared at him, waiting pointedly for an explanation.

"You've a strong moral fiber, Ruth. You would not permit yourself to act against your daughter, though her Talent frightened you. But you will have to waive that most laudable principle. Until Dorotea has developed sufficient discretion to handle her mental gift, you are going to *have* to block it."

Ruth blinked and then her eyes brightened, her mouth formed an "O" of amazement as she began to understand.

"Of course. Of course, I understand." Tears of relief welled in her eyes. "Oh, of course."

Op Owen smiled down at her. "Yes, Dorotea cannot be permitted to dip into any mind she chooses. You must restrict her by your ability to block. You won't need much pressure to dissuade her from eavesdropping."

"But won't Dorotea resent it? I mean, she'll feel me doing it, won't she?"

"All children want limits. As long as those limits are consistent and reasonable, a child as aware as Dorotea of her parents' approval and affection won't resist. In any event, by the time she could, or would, we shall have been able to instill discretion. But right now, Ruth, you have all that's required to keep Dorotea from becoming a nuisancy brat."

Ruth instantly reacted with indignation to his calculated insult and then laughed as she recognized the bait. She left his office, considerably reassured, once again at harmony with her situation.

Op Owen envied her that carefree assurance. He still didn't know what to call what she'd done. Yes, she had suppressed Lajos's pre-cog over the last six weeks, but in the four months prior to that, Lajos's abilities had

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increased in strength and efficiency and, except for duration and width, by a similar application of psionic effort on Ruth's part. What did her Talent actually affect? And would it, as he had so blithely assured her, be able to "block" Dorotea?

Well, if she thinks she can, she will. At least she is no longer afraid of her precocious child. He swung round in his chair, gazing out at the peaceful view of the grounds, glancing towards the City with its spires and towers.

Was I right in my analogy that Talent is in its infancy, and the public is the parent? With the duty to block the undisciplined child? Yet our people are more disciplined than the average citizen our Talents often must search out and rebuke, or protect and cherish. It would be catastrophic for the parent to fear the child. How much of the whole truth would reassure, as it had Ruth?

Those who truly understand psionic powers need no explanation. Those who need explanation will never understand.

Two mornings later, while reviewing contracts covering institutions holding government research grants, Lajos experienced one of his strongest Incidents. So powerful was the flame-fear that it was all he could do to pull the electronic recording web to his skull and depress the key that would relay the reading back to the Center.

"Flames!" he gasped, his mind reeling with the panoramic intense pre-view.

"Where?" he was prompted.

"A sheet, in front of a huge window, overlooking . . . the grounds. Rhododendrons. Red, too, The clock in the church tower . . . nearly twelve. Too much heat! The converter is flawed. It'll blow. There are so many people watching. They don't belong there," he was abstractedly curious at the sound of indignation in his voice. "They caused the fire. Meddling. I know *him*!" Lajos struggled to perceive clearly the face.

"You don't like him. Who is it?"

"Ahhh . . . The flames. Obscuring everything." Lajos fell back in his chair, shaken and sweating from the experience.

"Can you make it to the Center? I'll send transport," the duty officer suggested.

By the time Lajos reached the computer room, the system was already chuckling away at the details, locating which laboratories had scheduled visitors in the a.m.: laboratories using heat converters. The church clock tower suggested a college so that data was added as well as the planting of red rhododendrons.

Op Owen greeted Lajos, laying a brief hand on his arm, smiling his approval. "That was an intense pattern you projected. Have you

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any idea why that premonition should affect you so?"

"None, sir," Lajos replied, taking the seat indicated gratefully. He was still shaken.

"The man you knew. It was someone you obviously dislike. Do you have the impression you've met him, personally?"

"No. I recognized his face, that's all; then the flames leaped up.

"We don't have much time," and op Owen's eyes glanced towards the wall clock, registering quarter of eleven. "Your pre-cog came at 10:12. Unfortunately this appears to be appropriation time and every lab in the country is having its share of visitations. I want to play back your answer, Lajos. I was struck by two things and, if you can pinpoint them, we'll have the 'where' at least."

"Anything," Lajos agreed eagerly, thinking of the flames that were such a vivid overprint in his mind they obscured other details. "And one day, figure out why I have a pyro-affinity."

"Keeps insurance rates low, Horvath; don't knock small favors," Welch inserted dryly just as the tape was switched on.

Lajos listened as objectively as he could, appalled at the odd wooden quality in his voice, the fear when he mentioned flames.

"I've got it, sir," he interrupted. "The converter, the lab, the church tower. Knowing that the people didn't belong there. Wherever it is, is familiar to *me*."

"Charlie," Welch spoke over his shoulder to the programmer, "add Horvath's place and travel card."

Almost immediately a print-out appeared.

"Sir, it's the North East University. Checks out, clock in church tower, visible from research laboratory which uses a heat converter."

"Any visitors scheduled today?"

"No report on that yet, sir, but they do have a government funded research project in neo-protein and sub-cellular engineering."

"Check the university direct," Welch ordered after a nod from op Owen.

"Only limit it to a request about visitors," op Owen amended. "There was something else I want to check."

"Excuse me, sir," Charlie broke in as op Owen lifted his desk phone. "Several parties are expected during the course of the day. Dr. Rizor wishes to speak with you."

"When your office puts in a guarded call, Daffyd op Owen, I'm curious. Come clean."

"Henry, we are not alarmists . . ."

"Precisely. So?"

"We've had a valid Incident that appears to be placed at North East. Several of the details have not coincided, however. We are fallible, you know."

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Rizor's snort was derogatory. "What's the rest of the pre-cog?"

"It centers around the heat converter in the lab building opposite the church tower."

"And? God, it's like pulling nails from you, Dave."

"The heat converter may be faulty. The pre-cog was that it will blow due to a sudden hot lab fire, just before noon, while visitors are on the premises."

"I'd hate for something to happen there now, Dave. We're on the verge of a breakthrough in the neo-proteins. Running tests that are awfully good. But no visitors are expected there."

"Then a variable has already altered the pre-cog."

"That's too smooth a dismissal, Dave. Why would a lab fire stimulate your pre-cog? I didn't think they usually worked out of their own area."

"Our pre-cog recognized one of the visitors."

Welch signaled urgently to op Owen.

"Look, Dave," Rizor was saying, "I'm having that converter checked and the building cleared. That'll alter circumstances, too. Besides I don't want visitors in that building until we complete the program. A breakthrough will warrant government funding all next year. I appreciate your calling, Dave. Let me know when I can help."

Welch was practically apopleptic before op Owen hung up.

"Washington sent in an urgent personal pre-cog for Mansfield Zeusman!"

"That's who I saw," Lajos cried, jumping to his feet.

"Get Senator Zeusman's office on the phone, Charlie, and don't indicate the origin," op Owen replied.

"Dave," Welch exclaimed, a peculiar expression on his face, "he's the last person to warn. One, he won't believe you. Two, he's our principal antagonist. Let that damned hero perish."

"Les, you have a dry sense of humor," op Owen remarked flintily.

"I'm practical as all hell, too," Welch retorted.

"Can you tell me if Senator Zeusman is expected in the office this morning?" Charlie's voice carried clearly in the tense silence. "Oh, I see. Can you tell me where he plans to be in the morning hours? But surely he left an itinerary? Thank you." Charlie's voice was very stiff suddenly, his face expressionless. "He is not in the office. The assistant was very rude."

"If he's not in the office, he's college hopping—him and that Research Appropriations' Committee of his," Welch snarled. "He's the sly kind, loves to arrive unannounced."

"He could be on his way to North East, then," Lajos gasped.

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"Charlie, get Henry Rizor back."

"Sir, Dr. Rizor has left his office. Is there a message?"

Op Owen picked up the extension. "Miss Galt? Daffyd op Owen here. We have reason to believe that Senator Mansfield Zeusman will pay an unexpected visit to your campus before noon. Will you please inform Dr. Rizor immediately? Good. Thank you. I can be reached at the Center on a priority call basis. Yes, the situation could be considered critical."

Lajos felt himself unwind a trifle but his apprehension did not abate. He smiled weakly at op Owen.

"Paradox time."

"How so, lad?"

"Dr. Rizor believes. He is already altering the circumstances I foresaw. We may have undone ourselves!"

Op Owen's eyes flashed. "At the risk of Zeusman's life, and that of how many others you saw in the pre-cog?"

"No, sir, I didn't mean that," Lajos protested, stung by op Owen's scorn. "I meant, that fire can't happen now because Rizor will prevent Zeusman from entering the lab."

"I'd still prefer to see that sparrow fall!" Welch muttered adamantly.

Op Owen swung his chair in idle half-arcs, his eyes remaining on Welch.

"I am not the least tempted, gentlemen," he remarked in his usual slow, easy voice. "We are not God. Nor are we trying to replace God. The psionic arts are preventive, not miraculous. We are fallible, and because of that fallibility we have to be scrupulously impartial, and try to help any man our senses touch, whoever he may be, whenever we can. Lajos is right. We have already . . ."

"Sir," Charlie's voice was apologetic but determined, "two more danger pre-cogs involving Mansfield Zeusman. One from Delta and Quebec. Neither could get through to Zeusman and are applying to you."

Op Owen looked as if he were swearing silently, his eyes flashed. He glanced up at the clock, its hands inexorably halfway past eleven.

"We haven't altered the future enough," Lajos groaned.

"Charlie, alert all rescue teams in the North East area," op Owen ordered, his voice calm again. "I'll try for Rizor. Welch, get Lajos a sedative. Henry, I'm glad I could reach you . . ."

"Don't worry about a thing, Dave," Dr. Rizor's voice cheerily assured him. "I've a crew checking the converter and the building is completely off limits. What's this Miss Galt says about Zeusman paying us an unexpected visit?"

"Evidence points in that direction, and we've new pre-cogs of danger for him."

"Look, we're all set here, Dave,"

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Rizor drawled easily. "No one can pass the gate without checking with my office and . . . Oh, no. No!"

The phone went dead. Op Owen looked blankly around at the others.

"That's known as locking the barn when the horse is gone," Welch said in a flat voice. "Lay you two to one and no previewing, Rizor just discovered that Zeusman uses a heli-jet for these jaunts of his."

"Charlie, get me through to one of the mobile rescue team trucks."

"Sir, they're converging on the campus. Only they've been delayed at the gate," Charlie said in a very quiet but audible voice after a long pause.

Welch scratched his head, smoothing his hair back over his ears, smiling wryly at op Owen's expressionless face. Lajos wondered how the Director could sit so calmly, but suddenly, not the tranquilizer but an inner, natural composure settled his tensions.

"Sir," he began tentatively, "sir, I think it came out all right."

Everyone glanced up at the clock which now ticked over to high noon.

The second-hand moved forward again, and again, the sweep-second duly circumscribing its segments of time.

The phone's buzz startled everyone. Op Owen depressed Receive and Broadcast.

"I want to speak to the Director of this so-called Center," a bass voice demanded authoritatively.

"Op Owen speaking, Senator Zeusman."

"Well, didn't expect to get *you*."

"You wanted to speak to the Director. I am he." Op Owen hadn't switched on his visual.

The composed answer appeared to confound the senator briefly who had not activated the screen at his end. "You've outsmarted yourself, Owen, with this morning's exhibition of crystal-balling. I thought you'd have better sense than to set one up and try to fool me into believing in your psionic arts bunk." The senator's voice was rich with ridicule and triumph. "Heat converter's blowing, indeed! They're constructed not to blow. Safest, most economical way of heating large institutional buildings. A *scientific* way, I might add."

"I tell you, Senator," Rizor interrupted, "there *is* a flaw in the bleed-off of that converter. My engineers reported it."

"Get off the extension, Rizor. I'll settle your hash later. Applying for funds to run a research program which you arbitrarily interrupt at a vital stage on the say-so of crackpots and witch doctors? Your university is unfit to handle any further public monies over which I have any control." Mansfield was almost snarling.

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"I won't get off the extension, Zeusman. This is still a free country and I don't regret in the least listening to Dr. op Owen. There was a flaw which would have exploded under conditions foreseen . . ."

"Don't defend Owen, Rizor," Zeusman snapped irritably. "His meddling costs his defenders too damned much. How's Joel Andres feeling these days, Owen? How's his amyloidosis progressing? Just remember when you pre-cog his death, that the research your scheme interrupted here might have saved his life."

There was a loud clack as Zeusman broke the connection.

"Dave?" Rizor sounded defeated.

"I'm still here," op Owen said quietly. "What's this about Joel Andres?"

"You've had nothing? I thought you always kept a check on important men . . . like Zeusman." The name was grated out.

"Nothing's been reported. Precog is highly unpredictable, as you've just witnessed."

"That damned converter *was* faulty," Rizor was angry now and defiant. "It would have blown in the next overload. You saved Zeusman—and you've also saved other people."

"And Joel? Is it true about his liver?"

"So I understand," Rizor admitted heavily. "And the research was for a neo-protein to replace the faulty endogenous protein and restore a normal metablism. Don't worry. The experiments can be reinitiated."

"With Zeusman withholding funds?"

"There are other sources of funds and I intend to use your so-called 'meddling' to advantage. Damn it, that converter would have blown," he was muttering as he disconnected.

Lajos was utterly spent when he returned to his apartment. Ruth took one look at his face and fixed him a stiff drink. He drank it down and with a weary smile, flopped onto the bed.

"Dorotea asleep?" he asked hopefully. He was too disturbed not to generate emotional imbalance and too tired to suppress it.

"Fast asleep. Good for a couple of hours, honey," Ruth assured him, her strong fingers already at work on his tense muscles. She did not question his depression and weariness. Slowly she felt him relax as her massage and the stiff drink combined to bring surcease.

He woke in time for dinner and seemed in control again, laughing at Dorotea's antics, playing with her on the floor until her bedtime. Only when the baby was safely asleep in her shielded room did he tell Ruth all that had happened.

"Oh, no, not Mr. Andres," she murmured when he finished. Lajos

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didn't notice her quick flush as she suddenly recalled her one personal encounter with Senator Andres. He'd been . . . so kind to her and she'd been so embarrassed.

"How could I guess he'd be involved? It was the flames. And how could I guess that Zeusman would be saved at Andres' expense?"

"Why you couldn't, darling," Ruth cried, alarmed at his self-castigation. "You couldn't. You mustn't blame yourself," she said fiercely. "You saved lots of lives today. I know you did."

Lajos groaned miserably. "But why, Ruthie . . . *why* does the man now threatened have to be Andres? If Rizor hadn't ordered the converter off, the experiment would have been concluded. All they had to do was keep visitors out."

"No, that's not quite true," Ruth contradicted him sternly. "You said yourself that the heat-converter proved to be flawed. That flaw would not have been discovered without your pre-cog. It would have exploded during the next lab fire. Who knows who might have been killed then?"

"But Andres is the one who needed the neo-protein!"

"They'll come up with a neo-protein somewhere else," Ruth said emphatically, trying to distract Lajos. "They've made so many strides in organ replacement . . ."

"Except livers! That neo-protein was supposed to correct some kind of abnormal protein growth . . . faulty endogenous protein metabolism . . . that's what's killing Senator Andres . . . stuff is cramming into his liver and spleen, enlarging them and there's no known way to clear the amyloids. And when the liver doesn't work . . . that's it, honey. Ticket out!"

Ruth went on stroking Lajos' forehead gently, knowing he must find his own way out of this. He burrowed his face into her neck, entreating the comfort she never denied him. Later her mind returned to the terrible paradox, the tragic linkage of circumstance and the sorrow of the well-intentioned Good Samaritan.

God gives man stewardship of his gifts and the free will to use or deny them. Why must it be, that a man acting in good faith, finds himself reviled?

As sleep finally claimed her in the early morning hours, she wondered if she ought now to use her Talent to prevent Lajos from pre-cog. No, she drowsily realized, she had no right to take negative action. One must always think positively. One is one's brother's keeper, not his warder!

"I rather expected a call from you, Dave," Joel Andres remarked, grinning slightly. "And that's no pre-cog. No indeed," he rattled on without permitting op Owen to speak. "The good senator from

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that great mid-western state called especially to warn me I'm the next sparrow to fall because my pet witch doctor read the wrong crystal ball. Hey, that rhymes. Now, I don't believe that for a moment, Dave, on account of I don't think that that stupid mock-protein goop would have been jelled or curdled or what have you in time to save my misspent life anyhow." The words were light but there was an edge to Andres's voice that ruined the jovial effect.

"How long, Joel?"

"Probably long enough to get that Bill out of Committee, Dave, and I'll count the time well spent. Zeusman can't put down the mass of evidence in favor of psionics, the tremendous saving of loss and life already effected by validated pre-cogs. By the way, Welch told me that the pre-cog came in at 10:12. Do you know the time when Zeusman gave his pilot orders to fly to North East?"

"10:12?"

"Right, man. And that's in the record! Right in his flight log and a friend of mine impounded it because that pilot wasn't so contemptuous of the circumstances as Zeusman was. That pilot was scared silly by the coincidence. And don't think I'm not going to ram that down Mansfield's double-chins."

"He'll never admit our warning saved his life, Joel," Daffyd reminded him.

"Hell, he doesn't have to admit it. The facts prove it. But I must say, Dave, you made a mistake." Joel's chuckle was rich.

"Had I known what I know now, I do believe that this once I'd have sat back and twiddled my thumbs!"

"Ha! *I* don't believe that for a minute . . . no, maybe you would have," and the lawmaker's voice rippled with amusement. "If this has buckled your altruism, it's worth it. Worth dying for, because there's nothing trickier to tie down than an honest man gone bad! Now let me go to work."

"Joel, let me know . . ."

"Hang loose, man. Don't rob me of my cool. Not now!"

The senator broke the connection but Daffyd op Owen sat staring moodily at the wall opposite his desk, unable for the first time in his life to divert his train of thought. His mind writhed in recrimination as bitter as an ancient inquisitional penance.

"Dave?" Welch's brisk voice broke through his introspection, "there's an anomaly on . . . Oh, I'll come back later . . ."

"No, Lester, come in."

Welch gave his friend a speculative look but he unrolled the graphs without comment.

"Ruth Horvath!" op Owen declared, somewhat surprised, almost irritated that she should be the subject of this intrusion.

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"Couple of things. Here . . . on the baby's chart . . . Incident after Incident . . . compare it with Ruth's. No pattern. Not even an inky hiccup. I thought you said she could block that baby."

Curious now, op Owen scanned the charts. "What's this?" he asked, pointing to a sustained emphatic variation.

"That's the anomaly. Happened last night. It's a spontaneous variation. All her others have been triggered, usually by Lajos. And, if you'll look at the peaks and valleys in last night's graph, you'll see that the pattern is kinetic."

"That's too tight for a true kinetic touch."

"Well, it's not t.p., it's not 'finding', and what'n'hell would she be trying to find, fast asleep? 'Finding' is a conscious application, anyway. No, this is a kinetic pattern."

"For what reason? Against what?"

"Who knows? The point is, while she has stopped suppressing her husband, she hasn't started blocking her daughter. And that's going to be serious. I mean, we don't need a teething telepath broadcasting discomfort."

"Teething?"

"I forget you're not a parent," Welch said with tolerant condescension, "to *small* babies, that is."

Op Owen examined the patterns minutely but it was obvious Ruth was not responding and seemed unable to use a conscious block. And that was too bad. He frowned at the unusual kinetic display of the previous night.

"She's got it. She used it."

"Not consciously."

"I hate to resort to therapeutic interference. It might jeopardize her ever using it."

"It's therapy for Ruth, or that baby'll tyrannize both parents. And that's bad. A kid that strong has got to have limits, right now, before she can develop precocious resistance."

Op Owen looked over the charts one last time, shaking his head as he saw telepathic patterns on Dorotea's chart, saw the impingement on the mother's and no block.

"These could be legitimate calls . . ."

"Don't procrastinate, Dave. I know you hate interfering with Talent, that it should be spontaneous. Admit Ruth Horvath is one of those who cannot use Talent consciously. Meddle!"

Op Owen rose, his face drawn "I'll drop over to see them today. Let's hope she responds well to hypnosis."

"She does. I looked up her training record."

Two days later Welch came in triumphantly, trailing two sheets of graphing tissue.

"You did it, Boss. Look, pass blocked, time and again, with a

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minimum of effort on Ruth's part. Damn it, she is not a pure kinetic. What could she be moving with such an infinitesimal touch? How does she apply the block?"

"Unconsciously," op Owen replied with a sly grin. "However, it may be because that touch is so delicate, she can't do it consciously. I didn't *look* very deep. But so many kinds of Talent are fairly heavy-handed, violent. Like using awls in place of microneedles." He winced a little, remembering how his mental touch had uncovered Ruth's pitiful lack of self-confidence in her Talent. All her Incidents occurred without her awareness, deep in the subconscious levels of her mind into which Dave would not go. She was a nice womanly person; her surface thoughts revolving round her husband, her daughter; all her anxieties were needless guilts over minor details. It was, therefore, relatively easy to block her notions that she would inadvertently harm Dorotea, or try to suppress Lajos. It was easy to erase conscious knowledge of her Talent, replacing it with a feeling of accomplishment and well-being: the post-hypnotic command to respond to Dorotea's telepathic demands and channel them firmly into speech centers. He also displaced her reluctance to have other Talented children because she felt inadequate. Ruth must have great resources of self-assurance. He planted them.

Now op Owen turned to Welch. "Ask Jerry Frames how soon Ruth Horvath can bear another child. I'd like her first two fairly close together before she gets cold feet."

"Cold feet, he calls it!" was Welch's parting crack.

"I'm sorry, Daffyd," the Washington pre-cog insisted, "I've stared at Joel Andres's picture for hours. I've read his House speeches, I've read his memoirs, I've sat in his outer office until the Senate police asked to have a word with me. Then *he* came in, and recognized me, of course. And gave me a scarf." Mara Helm paused. "As a momento, he said."

"And you have no stimulation about him at all?"

"Nothing dire."

"What do you mean, nothing dire?"

"That's what I mean, Daffyd. Nothing conclusive, in that his life concludes. And, as you know, my accuracy is unfortunately high."

"I don't understand this, Mara."

"No more do I, when I hear the gossip around town."

"Which is?"

"That Senator Andres is spending his last moments helping a minority group that not only has predicted his imminent demise but destroyed his one chance of a cure." Her voice held no inflection as she uttered these quick sentences but her dislike of imparting the gossip was obvious to her lis-

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tener. Mara cleared her throat suddenly. "I do have a pre-cog, though," she announced mildly.

"A good one, if I recognize that tone of voice. I could stand some pleasant news."

"I'll be seeing you shortly," and she laughed mischievously. "In the flesh, I mean. Here!"

"In Washington?" Daffyd op Owen was startled. He rarely left the Center and, at this moment, he had no desire under heaven to set foot in Washington.

Two weeks later, Daffyd op Owen in a swivet of anxiety which no perception could dispel, disembarked from the heli-jet on the Senate landing pad. Mara Helm and Joel Andres were waiting for him. Daffyd had eyes for no one but the senator, who strode forward, grinning broadly, eagerly grasping the telepath's hand, forgetting in the excess of his welcome that Daffyd avoided casual physical contact.

However, op Owen wanted more than anything to touch-sense his friend. And was reassured by the vigorous sensation he felt equally strong through mind and body. He might disbelieve the evidence of his eyes as he stared at Andres's clear pupils, the healthy tanned skin with no trace of the yellow, indicative of liver disorder. But he could not deny the feeling of health and energy that coursed to him in that hearty handclasp.

"What happened?" he asked hoarsely.

"Who knows?" Joel retorted. "The medics called it a spontaneous remission. Said my body had started manufacturing the right enzymes again. Something to do with a shift in the RNA messenger proteins or some rot like that. Anyhow, no more amyloids in the perivascular spaces—if that makes any sense to you—the old liver and spleen are back to normal size and I can *feel* that. So, friend, *I* no longer need that neo-protein research Zeusman scrapped at all."

Mara Helm remained aside, grinning delightedly at the two men, until they finally remembered her presence.

"Daffyd, see?" and she laid a finger fleetingly on his sleeve. "You're here as predicted!"

"Did you bring the graphs and records I asked for?" Joel inquired.

"Here they are," and Daffyd handed them over.

"Good," the senator chortled maliciously, "we're going to hoist Zeusman on *his* petard today. However," and black anger surged across Andres's face, "I beg your indulgence, Daffyd. Certain . . . what would you call them, Mara . . . security measures?"

Mara's lips twitched but there was an answering indignant sparkle in her eyes.

"A shielded cage?" Daffyd suggested mildly.

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"Yeah," and the sound was more of a growl than an affirmative. "Don't think I didn't protest that insulting . . ."

"In fact, he ranted and screamed at the top of his voice," Mara put in lightly. "I elected to keep you company in the gilded gold-fish bowl," she added with a flirtatious wink.

"You'll have an advantage over me," Andres muttered. "You can switch off the sound of him."

"Who? Me?" Daffyd asked, and the three entered the Senate Building laughing.

Op Owen was not surprised at Zeusman's insulting treatment. He expected little else. Although the senator had initiated an investigation of all the Centers, he had never personally entered one. Obviously Zeusman was among those who believed that any telepath could read every mind: he would be unlikely to believe that telepaths performed their services much as a surgeon does an exploratory operation in the hope of uncovering a patient's malignant disease. Zeusman also decried the psychiatric sciences so his attitude was at least consistently narrow-minded.

"One more thing," Andres said as he held open the door into the shielded room, "you're here at the Committee's request, not Zeusman's, or mine. They may want to question you. Please, Dave, don't tell *all* you know?"

"I'll be a verbal miser. I promise."

"That'll be our saving," Andres flashed back. He obviously distrusted op Owen's sudden meek compliance.

"Doesn't Joel look wonderful?" Mara whispered as they seated themselves.

"Yes," Daffyd replied and then shut his lips. Even that interchange, broadcast into the chamber beyond, drew every eye to them. Op Owen crossed his legs, clasped his hands and composed himself outwardly.

Zeusman was not as large a man as op Owen thought he'd be. Nor was he a small man in stature which might have explained his aggressive, suspicious personality. He resembled a professor more than a senator, except for the elaborate gesticulations which were decidedly oratorical. And he was expatiating at length now with many gestures, pointedly ignoring Andres who took his place at the conference table.

The other five members of the Committee nodded towards Andres as if they welcomed his arrival. Their smiles faded as they turned back to the speaker. It was apparent to Daffyd that Zeusman's audience was heartily bored with him and had heard his arguments far too often.

"These Espers claim . . ." and Zeusman paused to permit his listeners to absorb the vitriol he injected in that word, "that even

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the advertisement of that pre-cognitive word changes events. Now that's a cowardly evasion of the consequences of their pernicious meddling."

"We've been through that argument from stem to stern before, Mansfield," the lanky bald man with a hawk nose protested. Op Owen identified him as Lambert Gould McNabb, the senior senator from New England. "You called this extra-ordinary session because you claim you have real evidence prejudicial to this Bill."

Zeusman glared at McNabb. McNabb calmly tamped down his pipe, relit it, pinched his nose between thumb and forefinger, blowing against the pressure to relieve his eardrums, sniffed once or twice, put the pipe back in his mouth and turned an expectant face towards Zeusman.

"Well, Mansfield, either hang 'em or cut 'em down."

"I have your attention, Senator McNabb?"

"At the moment."

"My contention has always been that protection for these meddlers is against common sense, ethics, and all the laws of man and God. They usurp the position of the Almighty by deciding who's to live and who's to die."

"To the point, Mansfield," McNabb insisted.

"Senator McNabb, will you desist from interrupting me?"

"Senator Zeusman, I will—if you will stop jawing."

Zeusman looked around for support from the other five members of the Committee and found none.

"On the 14th of June, I left my offices in this building for the purpose of visiting several of the universities requesting the renewal of Research Funds. As you know, it is my custom to arrive unannounced. Therefore, it was not until we were airborne that I gave my pilot his directions."

"What time was that?" Andres snapped.

"The time is immaterial."

"No, it isn't. I repeat, at what time did you give your pilot his flight directions?"

"I fail to see what bearing . . ."

"I have a transcript of the pilot's log, from the files of the Senate Airwing," Andres interrupted and passed the copy over to McNabb.

"Ten-twelve, Daylight Savings Time, the record says," NcNabb drawled, his eyes twinkling as he casually flipped the record across the table to the others.

Zeusman watched, frowning bleakly.

"I have here," Joel went on before Zeusman could grab breath to speak, "authenticated graph readings of four pre-cognitive Incidents: one from Eastern American Center, the Washington Bureau, Delta Center and Quebec. The period, allowing for time zones, in which these pre-cogs occurred is

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between 10:12 and 10:16. Excuse the interruption, Zeusman, but I'm trying to keep things chronological."

Zeusman awarded Andres a vicious smile and then a keener look. Op Owen wondered if Zeusman was only now aware of Andres's improved health.

"Ahem. When my heli-jet landed at North East University, I and my party were physically restrained by Dr. Henry Rizor, the Research Dean and members of his staff, from conducting our investigation of their project on the specious grounds that a pre-cog had been issued, predicting a flaming death for me and my party, due to a faulty heat converter which was supposed to explode. Well, gentlemen, I fathomed this little trap immediately."

"Whoa, whoa, Mansfield," Robert Teague suggested, tapping the material now in front of him. "The pre-cog reports I have here . . . by God, I'm getting so I don't need an expert to translate 'em for me anymore . . . indicate that's exactly what was to have happened. At . . . ah, shortly before noon. When did you arrive at North East?"

"Quarter to twelve."

"Then you'd've been in the building around twelve. I'd say you owed these pre-cogs your life."

"My life? Don't be ridiculous."

"I'm not. You are," Teague replied with considerable exasperation.

"I'm no fool, Bob. I know when I'm being had, in spite of all the forged records going. The whole business was rigged. Heat converters don't blow."

"Right, so how could one be rigged to blow at precisely twelve noon at North East when no one, including yourself, knew when or where you were going that morning until 10:12?"

"A flaw was discovered when the heat converter was dismantled: air bubble in the steel tank," Joel put in quickly, passing another affidavit to Teague. "The main chamber has been replaced. It could have blown, through that air-bubble flaw, under just such circumstances of overload as predicted."

"But it didn't!" Zeusman roared.

"No, because it had been turned off to prevent such an occurrence."

"Exactly. The whole thing was a hoax. Ten-twelve, twelve noon, whatever. *And,"* Zeusman rattled the words out so loud and so fast no one could interrupt him, "in turning off that so-called faulty converter, the experiment then in progress, paid for by government funds, was ruined just before what was certain to be a successful conclusion of a highly delicate, valuable project. I've papers of my own to present"—he dramatically flung stapled sheets on to the table—"depositions from the various qualified, highly trained, highly reputable scientists in charge of neo-protein research. And here is where

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these . . . these meddling gods overreach themselves. That neo-protein research, so rudely interrupted on the brink of success would have produced, by *scientific* methods —accurate, repeatable, proven—a substance that would prevent certain all too common and terribly painful deaths due to liver failure. Prevent an agonizing death facing a certain member of this august Committee. And, if these pre-cogs are so omniscient, so benign, so altruistic, so wise, why—I ask you, *why,* did they not foresee the effects of their own meddling on their avowed champion?"

Op Owen's altruism and benignity hit an all-time low and he found himself obsessed with the intense desire to turn kinetic and clog Zeusman's windpipe permanently.

"Ah ha," crowed Joel Andres, leaping to his feet, "why should they foresee my demise, my august colleague? Due to liver failure? How interesting! Of course, you have a paper to prove it, Senator, such as my death certificate?"

"Easy, Joel. Anyone can see you're healthy as a hog, though I must admit you had been looking a bit jaundiced," McNabb remarked, squinting at Andres keenly. "You look great now, though."

"But I had a report that he was dying of liver failure," Zeusman repeated.

"Got that authenticated?" Teague asked sarcastically.

"Easy, Bob. We know Mansfield's been doing the job he was elected to do, protect his constituents and this country. That used to be as easy to do," NcNabb went on, dragging at his pipe, "as finding decent substitute tobacco. But Mansfield *proved* that was bad for most of us."

"We're discussing Espers, not tobacco," Zeusman cried.

"No, we're discussing progress, on a level some of us find as hard to take as giving up tobacco. However, it was proved that tobacco was unhealthy. These people have proved their Centers protect health and property, and they go about it scientifically. Everything I've heard today," and McNabb jerked his pipe stem at Zeusman as the latter started to interrupt, *"proves* conclusively to me that you've been putting the wrong eggs in the right basket. That pre-cog was for *your* health and well-being, Mansfield, which these people are pledged to protect: you didn't have to take the warning . . ."

"I was forced to."

"Lot of us were forced to stop smoking, too," McNabb grinned at himself. "This artifical stuff still doesn't taste right to me, but I *know* it's better for me.

"Most important of all, Mansfield, and it seems to have completely escaped your logical, scientific, one-track mind, is the very fact that these people warned *you!* Whether they knew the conse-

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quences to Joel Andres or not if they also stopped the experiment, they had to warn *you* and your party! So stop your maundering on about their ethics and meddling. *I'd've* let you burn!"

Zeusman sank down into a chair, blinking at McNabb's craggy face.

The New England senator rose, a slight smile on his lips.

"Gentlemen, we've hassled this Bill back and forth for close to two years. We've satisfied ourselves the provisions protecting the parapsychical professions, as outlined in Articles IV and V, do not threaten the safety of the citizens of this country, do not jeopardize personal liberty, et cetera, and all that, and, hell, let's place it on the agenda and start protecting these poor idealistic bastards from . . . from them as don't wish to be protected!"

McNabb's grin was pure malice, but he didn't glance in Zeusman's direction nor was the midwesterner aware of anything but this unexpected defeat.

Op Owen reached the Center after full dark of the late spring evening. The pleasant sense of victory still enveloped him in contentment. He found himself, however, turning towards the apartments rather than his own quarters. The news that the Andres Bill had left Committee and would be presented to Congress next session had already been relayed to the Centers. He heard echoes of the celebrations which appeared to be going on all over the grounds.

A little premature, he thought to himself, for the Bill must pass Senate and Congress. There would be sharp debate but they predicted it would pass. The President was already in favor of protection for the Talented since he himself benefited from their guardianship.

Op Owen entered the building where the Horvaths lived. He hesitated at the elevator, then made for the steps, pleased to arrive without breathlessness at their apartment door.

He had a split second of concern that he might be interrupting the young couple, but it was quickly dispelled when Lajos, still dressed, flung the door wide.

"Mr. op Owen," the pre-cog exclaimed, a study in incredulous amazement. "Good evening, sir!"

"I'm sorry, were you expecting someone else?"

"No, no one. Exactly. Please, come in. It's just, well, everyone's been apartment hopping since the news came . . ."

"The Director is immune to jubilation?"

Lajos was spared the necessity of answering for Ruth entered from the kitchen, her face lighting up as she rushed forward to greet their guest. Op Owen was relieved at her obvious welcome: she could have developed a subconscious antipathy for him after their recent session.

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"I don't think anyone expected you back, tonight, sir," Lajos commented, pressing a drink on op Owen.

"We're all so proud of you, sir," Ruth added shyly.

"I did nothing," op Owen protested in surprise. "I sat in a shielded room and listened. It was Lajos's pre-cog . . ."

"There were four reports, sir," Lajos protested, "but is it really confirmed that Senator Andres has had a remission of that liver ailment?"

"Yes, absolutely, demonstrably true. I know we've all felt burdened with a certain . . . regret, on that aspect of the North East Incident. It is the inevitable concomitant of the precognitive gift."

"And Dr. Rizor's grant will be restored?"

Op Owen was taken by surprise. "I'm embarrassed to say I didn't inquire," and he felt himself coloring.

"We can't think of everything, can we?" Ruth put in, her lips twitching with a mischievous smile.

Op Owen burst out laughing and, after a startled pause, Lajos joined him.

"I'll bet it will be restored," Ruth went on, "and that's no pre-cog: just plain justice."

"How's Dorotea?" op Owen asked.

"Oh, she's asleep," and there was nothing but pride and pleasure in Ruth's face as she glanced towards the closed nursery door. "It's fascinating to *listen* to her figuring out how to get out from under the table."

Lajos echoed her smile. Op Owen rose, suddenly conscious of the rippling undercurrent between these two young people. His presence constituted a crowd.

"I wanted you to know about Joel Andres, Lajos."

"Thank you, sir. I appreciate it."

"It was so good of you to tell us. You must be so tired," Ruth added, linking arms with her husband and standing very close to him.

"Save your maternal talents for your children, Ruth," he advised kindly and left.

Once again in the soft night air, op Owen felt extremely pleased with life. Obeying an impulse, he glanced over his shoulder and noticed that the lights in the Horvath apartment were already out. He had interrupted them after all. Sometimes, shield as he could, the stronger emotions, sex being one of them, seeped through.

He took his time walking back through the grounds, permitting himself the rare luxury of savoring the happy aura that permeated the Center. He stored up the fragrance of the joyful night, the exuberance that penetrated the dark, the hopefulness that softened the chill of the breeze, against those desperate hours that are the commoner lot of man. These times of harmony, con-

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cert, attunement came all too seldom for the Talented. They were rare, glorious, treasured.

Habit made him stop in at the huge control room. Surprise prompted him to enter for Lester Welch, a dressing robe thrown over his nightclothes and a drink in one hand, was bending over the remote graph panels. His attitude, as well as that of the duty officer, was of intense concentration.

"Never seen anything like that before in a coital graph," Welch was muttering under his breath.

"Turned graphic voyeur, Lester?" Daffyd asked with tolerant amusement.

"Voyeur, hell. Take a look at these graphs. Ruth Horvath's doing it again. And at a time like this? Why?"

Welch was scarcely a prurient man. Stifling his own dislike of such an unwarranted invasion of privacy, op Owen glanced at the two graphs, the needles reacting wildly in response to the sexual stimuli mutually enjoyed. Lajos's graph showed the normal agitated pattern; Ruth's graph matched his except for the frenetic action of the needle, trying valiantly to record the cerebrally excited and conflicting signals its sensitive transistors picked up. The needle gouged deep into the fragile paper, flinging its tip back and forth. Yet the pattern of deviation emerged throughout the final high—a tight, intense, obviously kinetic pattern.

Abruptly the frantic activity ceased, the lines wandered slowly back to normal-fatigue patterns.

"That was most incredible. The most prodigious performance I I have ever witnessed."

Op Owen shot Welch a stern glance, only to realize that the man meant the electronic record. He was momentarily embarrassed at his own thoughts.

"What does she do?" Welch continued and the technician glanced up quickly, startled and flushing. "That kinetic energy is expended for what reason? Not that she'd be able to tell us anyhow."

"For what reason?" op Owen asked quietly, answering the safest question. "For the exercise of a very womanly talent." He waited, then sighed at their obtuseness. "What is the fundamental purpose of intercourse between members of the opposite sex?"

"Huh?" It was Welch's turn to be shocked.

"The propagation of their species," op Owen answered his own inquiry.

"You mean . . . you can't mean . . ." Welch sank, stunned, into a chair as he began to comprehend.

"It hadn't occurred to me before now," op Owen went on conversationally, "that it is rather odd that a brown-eyed, black-haired father, and a gray-eyed, brown-haired mother could produce a blue-eyed blonde. Not impossible. Just quite improbable. Now Lajos

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is pre-cog, and we have to grant that Ruth is kinetic. So how do these genes produce a strong, strong telepath?"

"What did she do?" Welch pleaded. His eyes knew the answer but he wanted op Owen to say it.

"She rearranged the protein components of the chromosome pairs which serve as gene locks, and took the blue-eyed genes out of cell storage. That would be my educated guess. Just the way she unlocked the RNA messengers for" —op Owen hesitated, no, not even Lester Welch needed to know *that* tinkering of Ruth's—"whatever it is she has in mind for this child." Welch had not noticed his hesitation. "It'll be interesting to see the end product."

Welch was speechless and the technician pretended great industry at another panel. Op Owen smiled gently.

"This is classified, gentlemen. I'll want those records removed as soon as you can break into the drum," he told the technician who managed to respond coherently.

"I'm glad of that," Welch said with open relief. "I'm glad you're not blabbing all this to the world. Are you going to tell Lajos?"

"No," Daffyd replied deliberatively. "He obviously intends to cooperate. And they'll be happier parents without that knowledge."

Welch snorted, himself again.

"You sound like you're getting common sense, Dave. Thank God for that." He frowned as the drum wound the last of that Incident out of sight. "She can acually unlock the genes!" He whistled softly.

" 'One science only will one genius fit.
So vast is art, so narrow human wit!' "

"How's that again, Dave?"

"A snitch of Popery!" op Owen remarked smiling as he left. ■

IN TIMES TO COME Next month's lead novelette—accompanying the conclusion of "Wolfling," by Gordon R. Dickson—will be "Trap," by Christopher Anvil.

This trap is of the bear-by-the-tail type, teleporting natives variant. Making initial contact with the said natives was easy enough. But this is equivalent to grabbing the aforesaid bear by the tail; it becomes exceedingly difficult to let go again.

How do you get home again *without* having a bunch of murder-minded natural-born teleports inviting themselves along?

The Centrans—the story's another in the Centran series Anvil started with "Pandora's Planet" in the September 1956 issue—made the mistake. The problem is handed to an Earthman: "Get us home—*alone!*"

As usual, Anvil has had—and you will have—fun with the miseries of his characters. THE EDITOR

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You'll love the past

The Future, if only we could visit it, would surely be a mighty inspiration. But it might prove to be an inspiration to do things in a violently different sort of way!

J. R. PIERCE

Illustrated by Leo Summers

When the time machine came to rest—or to pause—Sol Bronstein was in no ordinary twenty-first century version of the twenty-fourth century. The machine stood on the border of a tree-lined road. The afternoon sun cast shadows slantingly across the even surface of crushed stone. The road was more like a well-tended path than a highway.

On his side of the road, an unbelievably bright green field glowed in the sun, spotted picturesquely with contented cattle. The field was fenced with wandlike poles supporting a thin, shining wire. Across the road were rows of foot-high corn. Between these a man in a loose smock and clean but shapeless pants ran a small, silent, powered cultivator, plowing patiently away from Sol and his machine. At the end of a row, the man turned and started back. He was sturdy, dark-complexioned, black haired, healthy looking. His expression was serenely placid. As he neared Sol, the man put his right hand to his heart. "Good day, Brother." If Sol's Brooks Brothers suit seemed unusual to the farmer, he gave no sign.

Sol repeated the salutation. The man turned away incuriously and started up another row. Sol turned to the control panel of the time machine. Over it he placed a crude metal cover with a central slot. When the cover was in place, a strong steel eye projected through the slot. Sol fastened a laminated steel padlock through it. The machine was safely off the road and clear of the fence. Sol got out and left it there.

He looked up and down the road, across the gently rolling countryside. In one direction a slender spire, or steeple, poked above the horizon. With a final glance at the man cultivating the cornfield, and another at the time machine, Sol set off down the narrow road, walking toward the steeple.

It was a pleasant countryside. Sol passed meadows of hay, rows of cabbages, larger fields of grain. A hillside here and there was

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planted with gardenlike groves of trees. A meandering stream came into view. The road crossed the stream on a neat stone bridge.

Sol saw a few other workers—a man in the woods cutting up a fallen tree with a quiet and effective chain saw, another riding a neat light cart through the cabbage rows and spraying them. All looked amazingly healthy. All were of varying dark complexion. Once, Sol stepped aside to let a silent, low-slung truckful of gravel pass. Those who came close enough—about thirty feet,—greeted him as Brother. Each time he returned the greeting. No one showed curiosity. Sol might have been in an enchanted land, indifferent to difference, immune to surprise or change.

Gradually the town, or village, came into sight. First, there were sturdy stone barns along the road —empty now, when the cattle were in the field. Manure was piled neatly against the walls at one side. There were also sheds, housing wagons and farm machinery. The barns and sheds had smoothly thatched roofs. Most were dull grayish in color, but a few, more recently thatched, were a brighter yellowish tan.

Then Sol came upon well designed, neat stone houses with hedged yards full of trees and flowers. An occasional woman, tending the flowers, or sitting in the sun, watching a baby and knitting, greeted him as Brother, and Sol called them Sister. He was treated as a native of this alien world.

To the right he passed a larger building. Children's voices came from it, the eternal classroom sounds. To the left were a row of detached shops, symbolic signs over the open doors. In one a cobbler worked quietly and dextrously; in another a printer ran a small hand press silently and swiftly. A tailor sewed silently within a third. There were also stores, or depots, with barrels and bins, shelves and racks.

Then the road branched to each side, going around a town square, or rather, a town circle. This was surrounded by trees, with a playing field in the center. To the left the shops continued. To the right was the steepled structure Sol had seen from a distance. The building had a conical slate roof, and the graceful spike protruded from the top. A substantial house was attached at the right of the building.

Sol walked to the door of the house and banged its grotesque brass knocker. There was a scurrying of feet. A short, somewhat angular, freckled woman with flaming red hair opened the door. She slapped her hand across her heart, said "Brother," and continued in a spate of words even as Sol replied.

"A strange Brother," she said. "And why would he be greeting Bridget? Perhaps he's a comical Brother. Are you a comical Brother, Brother?" she asked, peering.

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A deep, soft voice called calmly from within the house.

"Bridget, Bridget," it said. "Bring the brother in."

"But surely, surely," the red-haired woman said. "Come in, strange Brother. The Senior Brother will see you."

She led Sol into a large room with a huge fireplace. The room was furnished with heavy, exquisitely made tables and chairs. A huge man got up from the table where he had been writing and greeted Sol as Brother.

"I am August, the Senior Brother," he said.

The Senior Brother, tall and solidly built, was graceful and supple, though he was no longer young. His thick, woolly hair and wiry beard were grizzled, almost equally white with black. His features were strong and creased, his nose broad, mouth wide. His complexion was a shiny black. Somehow, the whole was more than any one feature. The man had quiet dignity, power, Sol stood hesitantly in his presence.

"Brother, be seated," August said, indicating a chair at one side of the fireplace and taking the opposite one himself. "Bridget," he ordered, "bring tea and cakes. Our Brother has been traveling." Bridget hurried away.

"Who are you, Brother, where are you from, and what is your mission?" the awesome man asked.

"I'm Sol Bronstein," Sol replied. "I come from a time three hundred years ago, and I'm here to visit your world."

The huge man smiled warmly.

"I am glad that we have a visitor from so far away," he said. "You do well to visit us. Your times were troublous."

There was godlike serenity, monumental indifference and ritual friendliness in his manner.

"I came in a time machine," Sol said. "Have you had other visitors who came in time machines?"

The Senior Brother hesitated a moment in calm consideration.

"No," he said. "Unless one of our Heian guests may have so traveled. I have not discussed such things with them." He thought a moment. "Perhaps Jim would know," he added. "You can speak to Jim the tinker tonight."

"Here is our offering." August continued, as Bridget's steps could be heard hurrying to the room. But when she came she brought, not tea, but a very pretty girl in soft boots and rough stockings, wearing a bright wool skirt and a knitted jacket. Her soft, well-proportioned face was a faint olive, but exercise had flushed her cheeks beguilingly. Her figure was lithe and superb.

August rose as the girl entered, and Sol with him. The Senior Brother looked inquiringly at her.

"I am the week's guest." she said. "My name is Dorli. I am a musician, a pianist."

The Senior Brother walked toward her, saying "Welcome, Guest,"

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and embraced her, kissing her on the lips. When he released her and stepped back, she looked charmingly pleased.

"And here is Solbronstein, also a guest. Forgive me, Solbronstein. I had thought that you were the week's guest," he explained.

Sol stepped forward, embraced Dorli, and kissed her as the Senior Brother had done. As he drew back she looked confused but not displeased. August stiffened a little.

Bridget had left after announcing Dorli, and now she returned, this time veritably with the tea, which she laid out on a table before a double window looking out over the field. She left, and the Senior Brother served his guests tea and hot muffins with sweet butter as he conversed with them.

"So, I have two guests this week," he said, smiling his serene smile. "Dorli, Solbronstein is a guest from three centuries past, from the troublous times."

"The troublous times?" she said. "But all times were troublous before the Brotherhood."

"You are a pianist; I am an historian," he smiled. "The troublous times I speak of came just before the forgotten years. They were the days when Muhammed Ali defeated Cassius Clay and his black power. Am I not right?" August said, smiling tolerantly at Sol.

"But Cassius Clay and Muhammed Ali were the same man," Sol said hesitantly.

The Senior Brother shook his head.

"Two sides of man, perhaps," he replied. "Symbolically, of course. But the purpose of history is to teach lessons simply and clearly. Cassius Clay and Muhammed Ali play separate roles in the struggle of your day."

"What struggle?" Sol asked.

"The struggle that shook Dixieland," August said with a powerful, glowing inner concern. "The Rag Times. The days when King Martin Luther defied the devil and overthrew Babylon. The days of the Duke of Ellington and Count Basie. The days of the Core Bunch. The times of the Rocks and the Rolls."

Sol looked dazed.

"We must speak of those events," August told him. "Perhaps you can help me with some details. I myself," he smiled, "doubt the direct intervention of the Goddess Ertha, though scholarship is clear on most other matters."

"Yes, Senior Brother," Dorli said. "Now that you remind me, I read your own story of those troublous times when I was in school. But mostly, I studied music," she added.

"It is well to study that which we are to do," August said. "Soon we will hear Brother Solbronstein's story. But now we should rest, if Dorli is to play for us this evening."

He looked at Dorli inquiringly.

"Oh, yes, Senior Brother. I am quite fresh. I have walked only from the next settlement, twenty

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kilometers away. But is your piano tuned and in order?"

"Indeed yes," the Senior Brother said. "There is nothing lacking there. Jim the tinker is both ingenious and musical. You will find the piano ready. So, you may rest until evening."

"You are all strong and healthy," Sol said.

August smiled.

"Only the strong are accepted," he said. "But even the strong need rest. Bridget will show you to your rooms. She will get party clothes for you, Dorli," he added.

"Bridget is very fair," Dorli said. "and she has red hair."

"Yes," August said. "Her folk breed among themselves, brother with sister. Simple people, some too simple to serve well. But proud of their peculiarity, and good Brothers."

"Bridget," he called in a soft voice that penetrated the house. And soon she appeared and led Sol and Dorli away.

Bridget showed Dorli to a huge, heavily furnished room, and then she took Sol to a small cubicle, clean and neat but with Spartan furnishings.

"This is smaller than Dorli's room," Sol remarked to Bridget.

"That was the Senior Brother's room," Bridget replied.

"Dorli will spend the night with the Senior Brother?" Sol asked.

"The host honors the guest; the guest rejoices in his hospitality," Bridget said mechanically, as if reciting.

"But if the guest is a man?" Sol inquired.

"You are a strange Brother, Strange Brother," Bridget said. Then she recited; "What is for man is for man; What is for woman is for woman," and she scurried out of the cubicle. Sol took his jacket off and lay down on the bed to rest.

The party, or gathering, or village assembly was held in the cone-roofed hall. The entire village was there. The children amused and cared for one another in a railed enclosure. The adults sat on benches and ate from tables near the wall —tables loaded with bread, honey, cheese, cold meat, and a still brown beer, soft and smooth to the taste but certainly not without alcohol. Sol and Dorli sat on either side of August, who talked of the local artisans and their skills.

"We are famous for our boots and shoes," he told his guests. "Will you take some with you?" he asked Dorli.

Dorli looked at the graceful red slippers that went with the bright blouse and skirt she had been given to wear.

"No," she said. "These slippers are beautiful. I enjoy wearing them here. But my boots are good, and comfortable for traveling."

So the meal passed. Then the village folk cleared the tables, though they left the beer jugs and

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the mugs. The Senior Brother rose.

"Our guests are Dorli and Solbronstein," he said.

Dorli stood, and so did Sol.

"Dorli will play," August declared.

Dorli went to a grand piano placed well away from the farther wall. She sat quietly for a moment, then played a haunting, modal air with a simple accompaniment of broken chords. The audience listened gravely and applauded.

Other songlike tunes followed, some lovely, some sad, some bright and gay, none very long. Dorli always hesitated on finishing a piece, and soon the villagers began to call, "Will you play 'The Farmer'?" or "Will you play 'Fell in the Creek'?" Dorli always played the tune requested. Sometimes the audience sang, but quietly, so that the piano could be heard clearly.

Finally one villager called, "Play 'The Crooked Tinker'."

Dorli looked out to her audience.

"That I do not know," she said. "Perhaps you would sing it for me."

"It is a song of Jim, our tinker," August said. He sang the quirky, gliding, leaping tune in a powerful, sweet, true voice.

Dorli played the tune through simply. Perhaps it caught her fancy, for she played it again, accented queerly and yet appropriately, with a joggy, rhythmical accompaniment. Then she played a sequence of strange and dazzling variations. When she ceased to play, her audience sat in hushed silence for a moment, then applauded wildly.

As the applause finally died, August rose.

"Will our guest play to dance?" he asked.

Dorli played brightly and rhythmically. "Dance, dance," August said, and went out onto the floor. Couples leaped up, and skipped and hopped with him in intricate patterns as Dorli played louder and faster.

Sol sat sipping his beer and watching Dorli. A yellow, thin, angular Brother came to the table and sat down beside him.

"I'm Jim," he said.

Sol turned to him.

"I'm Sol," he said. "August mentioned you. You are the tinker."

"Tinkering is my service," Jim said. "And sometimes I can fix machinery before our Heian guests visit us." He made a face.

Sol was still intent on his beer and on Dorli.

"You aren't from the Brotherhood," Jim said.

"It's good of you to notice," Sol replied. "I'm not sure anyone else understands. When I told your Senior Brother that I came here in a time machine from three hundred years ago, all he did was tell stories about some troubled times."

"He writes the stories," Jim said, "and he believes them. The Brotherhood is good for him. He doesn't care to look beyond it. Isn't he like a god, though?"

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"Doesn't anyone else here play?" Sol asked. "I'd like to dance with Dorli."

"Strangers do find our beer strong" Jim said. "If I play, will you come and see me in the morning? My shop's south of here. You can recognize it by looking in the door."

"Sure, sure," Sol said. "Only, play, won't you?"

They went around to the piano walking between those villagers who were drinking beer at the tables and those who were energetically dancing. August was moving massively but fluidly opposite a golden woman, watching her with remote and superior approval.

When they reached the piano, Jim sat down to the left of Dorli, said something to her, and took up, left hand and then right, without missing a beat. Sol took Dorli's right hand in his left as she slipped from the bench. When she rose, he put his right hand behind her waist. She was a little breathless and exhilarated from playing. Her smooth olive features were beautiful in the soft light. Drawing her to him, Sol danced her toward the door, and out into the warm night.

There was no moon, but the glow from the curtained windows of the hall gave a sense of direction, and soft sighs and utterances from beneath the trees showed that some had left off drinking or dancing. With his arm around Dorli's waist, Sol walked slowly toward a tree from which no sound came. What he then said was not words, nor was her reply. Their murmurs joined the other sounds of the night.

The noise by Sol's bed in the uncertain light of dawn was Bridget with a cup of tea and a warning.

"Breakfast in a half. Senior Brother and guests. Hot water and tea."

Sol rose cautiously, and sank back, sitting on the bed and eyeing the washstand with its pitcher of hot water distastefully. Finally he rose, washed his hands and face and sponged his body. He felt his face and eyed the straight razor, but he did not shave. He dressed, and walked carefully to the room he had been in the day before. August and Dorli were already at the table, talking gravely. The Senior Brother's massive hand was over hers.

"Good morning, Solbronstein," August said. "May it be that you slept well."

Sol looked at that noble face, but there was nothing, not even concern, in the serene expression.

"Good morning, August; good morning, Dorli," he said. "I trust that you slept well."

"We did," said Dorli, smiling freshly.

"And now, let us eat," said August. He glanced downward, then upward, broke bread, handed a piece to each of his guests, and they fell to. Even Sol nibbled at his food.

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"The honey," August observed to Sol, "has a particular property. It counteracts the effect of beer, and of other excesses."

The tone was even, but pointed. Sol said nothing, but ate some honey with his bread.

"Dorli, our guest, has played for us. What is your talent, Solbronstein?" August asked.

"I am an inquirer," Sol said.

"Indeed?" the Senior Brother said. "And what is the aim of your inquiries?"

"I came from the troubled times to inquire concerning the Brotherhood and the Heians. I came in a time machine," Sol replied. "And now I will inquire from Jim. If you will excuse me, please," he added.

Sol left the quiet couple, left the house, turned to the right, and walked along the road until he found the tinker's house. He jangled the bell beside the open door and walked into an empty workroom.

There were a crude workbench, hammers, pincers, shears and a soldering iron over a dead charcoal fire. Pots were stacked about, some battered, and others shiny and repaired. As Sol looked about, the door in the back of the room opened, and the thin, angular yellowish tinker appeared, clad in rough work clothes.

"Thanks for playing last night," Sol said to him. "I've come as you asked."

"Think nothing of it," Jim the tinker said. "I hope you had a good time."

"I did. I think the Senior Brother didn't like it."

"I'm surprised he showed it. But she's very attractive. And a good musician, too."

"No better than you," Sol said.

"Not many are," Jim agreed quietly.

"And you're a tinker, too," Sol said.

"Among other things," Jim replied. "Since it's you, you might as well come into the back room."

Sol followed him through the door, and into a very different room. The windows were shuttered, and the bright light was artificial. There was a neat cot against one wall, a cat sleeping lazily on it. There was a washstand and a cupboard or wardrobe, in keeping with what Sol had seen in August's house. Jim saw him looking at the furnishings.

"Old habits die hard," he said, sitting down on the bed and stroking the cat, which purred. "But the rest is mine, too."

The rest included a neat laboratory bench, hand tools and machine tools, and apparatus that Sol could not quite grasp. There was what might be a stove and a refrigerator. There was a small self-powered plow or cultivator, such as the Brother in the cornfield had used. Sol sat down on a high laboratory stool.

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"Don't the Brothers know about this?" Sol asked.

"In a way," Jim said. "They can hardly think that I fix their Heian tools in the tinker shop. But really, they don't think about it. It wouldn't fit in. Sometimes I can fix Heian things, and that saves them waiting for the next Heian visit, and ordering a new machine, and making a gift. It's convenient to be able to bring things here. Fixing is a part of my service, just as tinkering is. They don't ask how I do it."

"Who are the Heians, and what gifts do the Brothers give them?"

"The Heians are people who took the wrong way," Jim said. "Some of them are guests of the Brotherhood. Our Heian guests live with us and admire us. We give them gifts—shoes, pottery, furniture, clothing—all of our best craftsmanship, as proud and generous hosts should. They give us machines. Things of little craftsmanship and worth, but useful in their way."

"Like plows." Sol pointed to the presumably broken plow. "And chain saws. And electric fences. And trucks to carry gravel for the roads."

"Yes," Jim agreed. "And rock crushers and explosives to make the gravel. And a few other uncraftsmanlike gadgets, too."

"I suppose that's what August would say," Sol said.

"Oh, he'd say it much better," Jim replied.

"It would still be a lot of talk," Sol said.

"Yes," Jim said. "It would be. The Brothers are fine people. Healthy and hardworking, and they enjoy life. All full of the Brotherhood and its good and immutable ways. Skillful, but a little stupid, most them. Not the Senior Brothers, though. August is smart."

"He told me his story of my time," Sol said. "Why does he talk such nonsense if he's smart?"

"He's smart enough not to want to know different," Jim said. "To him, history is a moral lesson."

"That's what he told me," Sol agreed.

"And history is whatever story will teach the right moral lesson," Jim continued. "The story that teaches the moral lesson that justifies the Brotherhood. An easily remembered, a simple, a moving story, of course. Based on some sort of facts, I imagine. You can tell me about that."

"How did the country get to be like this? And how large is the Brotherhood? My country was a continent wide, and it was built up, industrialized."

And Jim told him.

Jim didn't know how large the Brotherhood was. He had wandered for hundreds of kilometers; it was all the same. The Brothers were just what they seemed. Farmers. Craftsmen. A static socialistic culture, held together by common arts, common traditions, and an

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endless flow of wanderers like Dorli —musicians, poets, storytellers, reciters of legends, book bearers, who together somehow corrected whatever drifts might have taken place. And so did the Senior Brothers. Every village had a Senior Brother.

"Aren't they from the villages?" Sol asked.

Jim didn't know. They always came from somewhere else, from some other village, perhaps. They were trained somewhere. Jim had never found out where. Perhaps they were an entirely separate culture. They acted wisely in the concrete problems that faced the Brothers and their villages, and they talked nonsense about everything else. They were as inscrutable as the Heians. Even more so, for when the Heians did talk, they talked sense.

"Who are the Heians?" Sol asked again.

"They are yellow people, straight, of medium height, with black hair and black eyes. They are quite like one another, much more so than the Brothers," Jim said.

"I've noticed about the Brothers," Sol said. "August is so dark and massive. Bridget white, with red hair—"

"And stupider than the rest," Jim commented. "An inherited trait. They breed together."

"But they're all healthy, including Bridget," Sol said.

"Only healthy babies are accepted," Jim said. "And those who survive lead simple, healthy lives."

"Accepted?" Sol said. "That's the phrase August used. And survive? Oh, I see. Who decides which children shall survive?"

"The Senior Brother, of course," Jim said. "It's a moving ceremony. The parents have feelings. But they are members of the Brotherhood. To them, August is the Brotherhood. He is their Senior Brother."

"It must be just bodily health that counts in acceptance," Sol said. "The Brothers have such a range of statures, features and colors, though mostly on the dark side. And you're yellow."

"All men are Brothers," Jim replied. "As long as they're healthy. But I think I am part Heian. Either something slipped, or a real Heian paid us a visit here."

"What do you mean?" Sol asked.

"Our Heian guests are sterile. They live here together for years and have no children. They're not sexless. Our girls know that. Our girls are as polite to our guests as they are to us. Our guests are stupid Heians, who are not allowed to live at home or to breed. They've been made sterile. Their lot is to be guests of the Brotherhood. And to trade with and for us. I've never seen a real Heian," Jim added.

"But you know the Heian guests pretty well," Sol said, looking around the room.

"I amuse them," Jim said. "I tell them about the Brotherhood. I flatter them. I tell them what they

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want to hear. I wheedle things from them. I'm smarter than they are."

"Smarter than stupid Heians?" Sol asked.

"Smarter than real Heians, I think," Jim said. "I've found out how all of these things work," he gestured around the room. "The Heians who gave them to me didn't know. Of course, I've wheedled some manuals from them."

"You must be bored here," Sol said. "Why don't you go among the Heians?"

"That wouldn't do," Jim said. "I'm sure that they think of the Brothers as a sort of talking animal, not quite rational and completely deluded. A rational, intelligent Brother would worry even a stupid Heian. A jester, a squirrelly, wheedling tinker who stays in the Brotherhood doesn't."

Sol sat silent for a while. Jim sat impassively on the bed, his head bowed, his shoulders slumped, his eyes closed.

"How did it get to be this way?" Sol finally asked.

"I really don't know. I really don't know," Jim said. "I guess though. I guess that the Brotherhood, or the ancestors of the Brotherhood, and the Heians had a terrible war back toward your times. And I guess that the Heians won. And I guess that the Heians gave your descendants what they said they had been fighting for—Brotherhood, equality, freedom from want, freedom from fear, freedom from vexations of the flesh, and freedom from the vexations of the spirit. I guess that the Heians obliterated everything that stood in the way of that good life. All the complications, the machines, the organizations that inequalities create and that breed inequalities.

"I guess that the Heians like our primitive arts, though I don't really know. I guess that they interact with the Brotherhood just enough to keep it stable and homogeneous. I think that they even control our weather, and perhaps our fertility. And I guess that the Brotherhood is a sort of object lesson to them, a lesson that maybe teaches them that not all the good things men can want are so unmitigatedly good when you have them.

"But I only guess; I don't know. And I wish I didn't even guess. It's more than a bore. I'm not a Heian. I grew up in the Brotherhood. Somehow, I am a Brother. I'm not sure I wish I wasn't. But I wish I didn't know. And there's really nothing for me to do here. I just tinker with pots and with Heian machines."

"I came in a time machine," Sol said.

"Yes," Jim said, alert again. "I suppose the real Heians must have them."

"I don't think so," Sol said. "The man who came to my time in it was as black as ink."

"Where, or when was he from?"

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"I don't know," Sol said. "The guard shot him."

Jim looked puzzled.

"I have a little electronics company on Route 128," Sol said. "Nothing much. Started with an idea I had. But it's growing. Classified gadgets for the Panda war. The time machine appeared inside the fence at night, on the side of the building away from the guard. And the poor fellow in it, when he came around the building, the guard shot him. Then he called me and the police. I got there first and got a tarpaulin over the machine before the guard or the police saw it. I puzzled out what it was from the time control and the time dial. I took a chance. You have to take chances to get anywhere."

"Not in the Brotherhood," Jim said. "And you don't get anywhere."

Sol looked speculatively at the gadgets in the room.

"Are you really as smart as you say you are?" he asked. "For instance, could you make something, some of these?"

"What's your technology like?" Jim asked.

Sol told him.

Jim nodded as he listened, asking a few questions.

"I could make some things," he said. "And with help, I could make more."

"I've got the help," Sol said, "or I could get it. What I need—what we need—to get ahead are new ideas. And you've got new ideas."

"Some from the Heians, some of my own," said Jim. "You're inviting me to go with you?"

"We'll make a million," Sol answered him. "You can have anything you want. Anything."

"I want to work hard," Jim said, "and to think hard. And to accomplish something. We'll dress for traveling. Then we'll ask the Senior Brother for leave to take a long journey together. He always gives leave. And then we'll go."

"Why bother with August?" Sol asked.

"I'm a Brother," Jim said. "I'm leaving my home—my culture. I'll leave fittingly. Besides, that way the Senior Brother won't have anything to report, if Senior Brothers do report."

"I told him I came in a time machine," Sol said.

"He won't want to believe it if you don't persist," Jim said, "and soon he won't believe it."

Jim set about dressing for a journey. He prepared two small packs, one for himself and one for Sol. Into these he put various small tools and gadgets. Most of the rest he put into a cabinet and closed its door. When he opened the door the contents were gone, and he put in the food from the refrigerator, closing the door again. The larger devices he left.

Then Jim gave Sol one pack and shouldered the other himself. He rolled the plow out into the tinker's

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shop. He picked up the cat, which lay quiet in his arms, turned out the lights in the back room, and locked the door leading to it.

When this had been done, Jim and Sol walked to the Senior Brother's house. Bridget admitted them to the finely furnished, but crudely designed room, where August sat before the fireplace. When the Senior Brother had greeted them with his impassive dignity, Jim told of the wanderings that he and Solbronstein would undertake. Permission for the journey was granted.

"My shop is at my Brothers' disposal," Jim said, "but I have locked my living quarters."

"Frankel can use the shop," August said. "He knows tinkering."

Jim agreed.

"I was unable to fix Thomas's plow," Jim said.

"Our Heian guests will give him another," the Senior Brother said.

"And now, farewell, Brothers," August said, hand on heart.

"Farewell, Senior Brother," Jim and Sol responded.

They walked away over the neat, narrow road. Jim's cat went with them, sometimes ahead, sometimes behind. They went past the well kept but monotonous houses, past the small fields primitively cultivated by kindly, friendly, healthy dull Brothers until they reached the time machine. As Sol unlocked the padlock that held the improvised cover over the controls, he looked at Jim.

"You'll love the past," he said. ■

THE ANALYTICAL LABORATORY

November 1968

PLACE	TITLE	AUTHOR	POINTS
1. . .	The Infinity Sense	*Verge Foray*	1.44
2. . .	Split Personality	*Jack Wodhams*	2.72
3. . .	The Rites of Man	*John T. Phillifent*	3.48
4. . .	The Alien Enemy	*Michael Karageorge* . .	3.48
5. . .	The Ultimate Danger	*W. Macfarlane*	3.8

The Editor.

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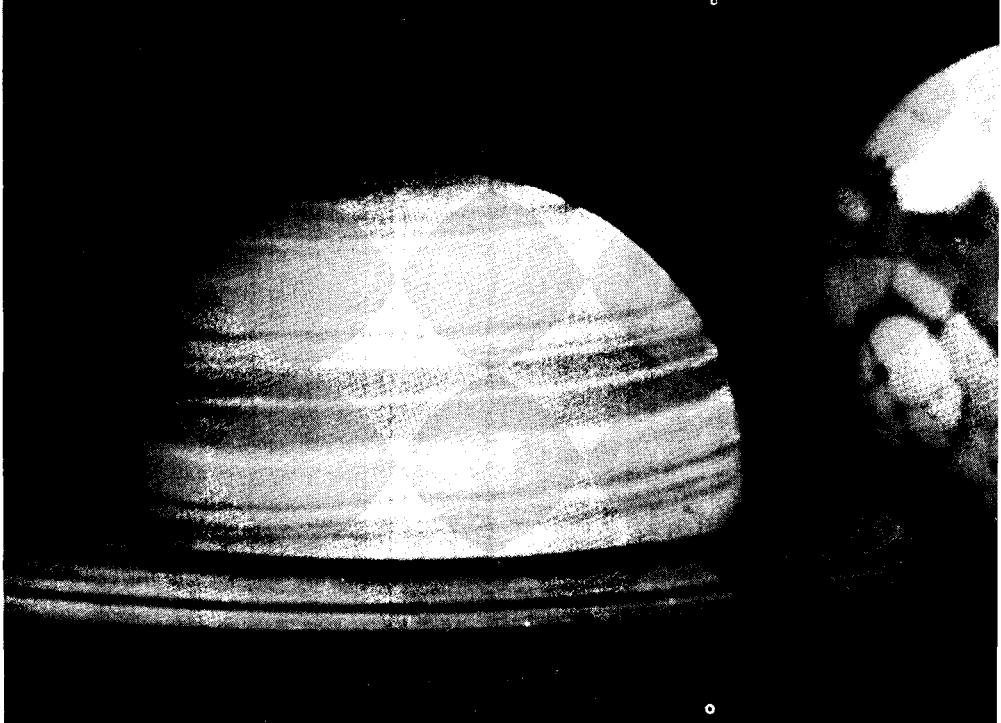
by G. Harry Stine

The Man Who Makes Planets



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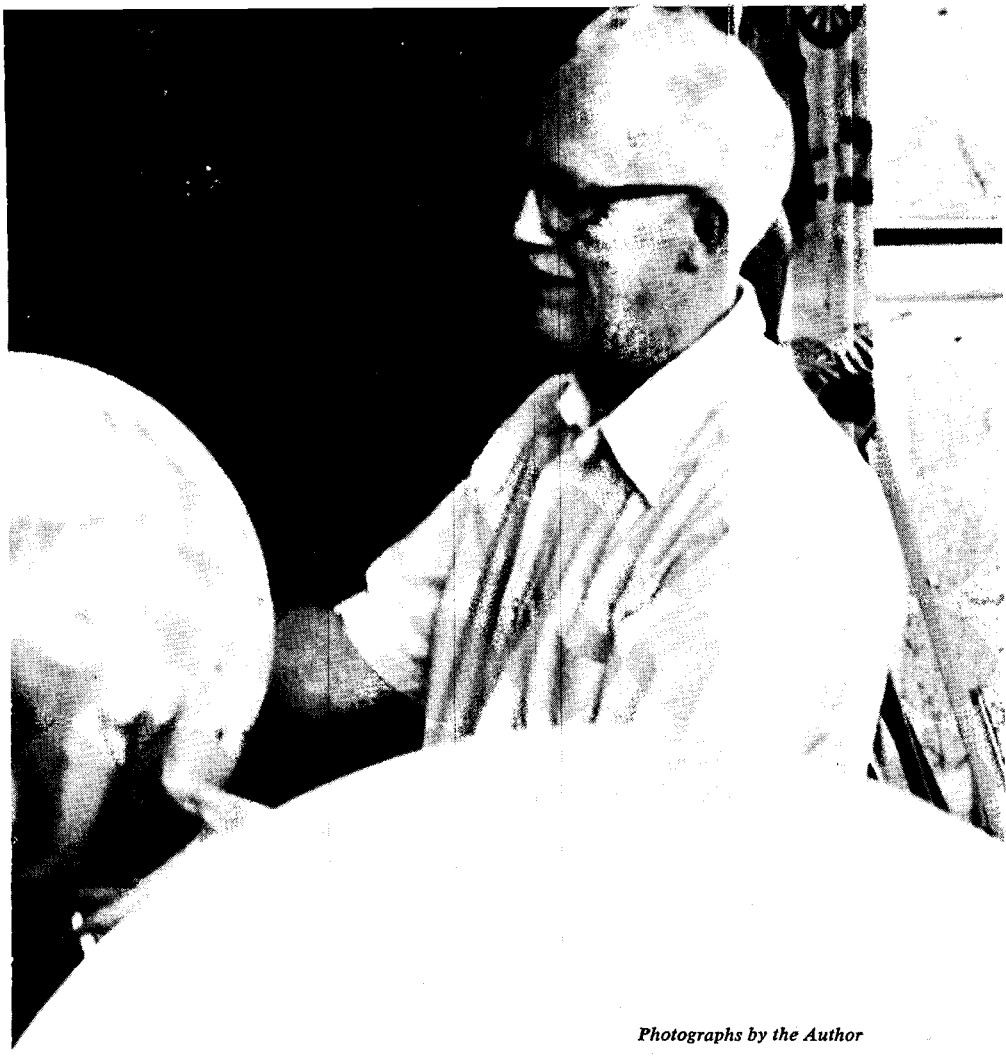

Photographs by the Author

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Various science-fiction authors have designed planets to suit their stories—Hal Clement's famous Meskelin, for instance. But this man makes Solar planets, with the greatest accuracy presently possible!

About a half-mile north of the Sing-Sing "big house" in Ossining, New York, a man makes planets.

Not real planets, of course, but exact, accurate scale models of the worlds of the Solar System. Where geography and space probes have revealed relief features, these models are complete even to mountains, valleys, ocean trenches, maria, craters, and other three-dimensional factors.

The man responsible for this planet-making activity is artist-sculptor-photographer Kenneth S. Fagg, a spritely wisp of a snowy-haired man who is probably the world's foremost authority on how our own planet appears from the sky and from space. Ken heads up the Geo-Physical Department of Rand McNally & Company. For years, he has been "mass producing" the striking 75-inch-diameter relief globes of the Earth that are now on display in many museums, schools, libraries, laboratories, and office buildings around the United States. These huge globes, painted in the summer colors of the landscape, are in use by NASA for astronaut training. And you will see photographs of Ken's Rand McNally Geo-Physical Globe in *Newsweek*, *Look*, and the *Life* Rand McNally Pictorial Atlas of the World.

Now, as human beings begin to set foot on the Moon and plan explorations of the planets, Ken Fagg is already building models of the Moon and the planets.

It all started out many years ago when Ken did a lot of flying—on his own and on various Air Force projects. He was trained as a commercial artist, he was a good photographer, and he was also a sculptor. Ken is one of the few "universal artists" who can work well in almost any medium that involves visual presentations. Unlike many artists and photographers who fly, Ken was not primarily interested in the flying machines themselves, but in what his artistic eye saw on the Earth below. As anyone who flies can tell you, our world looks quite different from 500 feet up, 5,000 feet up, or 30,000 feet up. Small relief features such as hills, mounds, and valleys seem to flatten out and become inconspicuous from the air. Colors change quite dramatically and the exact hue of any piece of land may be altered radically not only by seasonal changes, but by the altitude from which it is viewed, the weather conditions under which it is seen, and the time of day when it is viewed. Interesting patterns appear that are not discernible from the ground. Geological features often

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become startlingly apparent.

Ken began to photograph the Earth from the air . . . not as an aerial cartographer would do it, but as an artist would. He snapped unusual geological structures, different geographical areas, alluvial cones, shore lines, rivers under various lighting, and almost anything that caught his trained eye. Slowly over the years, he built an archive of information that might well be titled, "How The Earth Appears From The Sky." He carefully filed all of this information.

As an illustrator, he soon began to specialize in aerial views. Many national magazines began to include his illustrations of the Earth as seen from the sky. Ken's illustrations are striking; once you have seen one, it is difficult to forget it. My own favorite shows the Mississippi River at sundown with a stern-wheeler plodding along; the land is in semidarkness while the river shines with the reflected light and colors of the sunset sky, and this is as viewed from an altitude of several thousand feet up.

Ken also started to sculpt relief models of various areas of the world. It did not take long before he was making a relief globe of the world.

With Sam Berman, Ken founded Geo-Physical Maps, Inc. in 1955 for the purpose of making and selling two different models of his relief globe. One type was a huge, inflatable globe 75-inches in diameter in full relief that could be painted in the natural colors of the Earth or almost any fashion the customer desired. The huge globe was inflatable so that it could be easily stored, shipped, and moved around. However, Ken and Sam Berman were not happy with it. The rubber lacked the required durability and stability. It tended to shrink and stretch, throwing the global map out of scale. Although the Earth isn't a perfect sphere anyway, Ken and Sam knew that the geoid was closer to a sphere than anything else and that some of their rubber globes were decidedly exaggerated in this respect. Besides, Ken is a perfectionist. It was intolerable to him to spend months insuring the greatest possible accuracy in locating a mountain or island . . . only to have the rubber stretch and ruin the scale qualities.

Months of research finally resulted in a fiberglass-reinforced epoxy globe that is cast in two hemispheres and joined together at the equator. This was the big breakthrough in manufacturing the big globes in quantity, and today's Rand McNally Geo-Physical Earth is made by this process in special molds.

The second Geo-Physical globe was a smaller one, only twelve inches in diameter. The process involved in forming a hemisphere with full geophysical relief out of a sheet of polystyrene plastic was a

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difficult one to work out, and it is still a trade secret. One might think that it could be done by vacuum-molding . . . until one tries it and attempts to break the reliefed hemisphere out of the mold!

Unlike ordinary globes intended for home or school use, the 12-inch Geo-Physical Relief Globe was not mounted on a polar axis, and the early ones were unpainted and white. The unmounted feature was quite unique; it permitted a person to view the globe from any angle. It is rather amazing to study a globe without a North Pole mounting to get in the way; the polar air routes and the closeness of the major cities in the northern hemisphere become predominantly obvious. The reason for leaving the globe an un-painted white was for school purposes, the surface being specially sized and treated to permit a student to use tempera, water color, crayon, or other coloring materials on it for whatever purpose desired—showing political divisions, population density, climate, natural resources, et cetera. Later G-PR work globes were molded in blue plastic, simply because everyone spent so much time painting blue the 79% of the globe's surface that represents the oceans and seas!

For those of you who like to solve puzzles, figure this one out. The early G-PR 12-inch globes were molded with a ridge at the equator sticking out about ¼-inch

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Ken Fagg is one of the most knowledgeable geographers alive in addition to being a top artist. His Geo-Physical Earth globe, 75 inches in diameter and molded in full relief, took him years of work and is now in "mass production." The job of checking the Earth globe for accuracy against new and more accurate data is a never-ending task.

with suitable moldings on it for locking two hemispheres together; this is a relatively simple thing to mold, provided you can figure out how they got the plasticity or "stretch" in the plastic sheet to mold a complete hemisphere. But the current G-PR blue globes have the equatorial ridge *inside* so that there is no external ridge along the equator on the outside of the globe. Now, how did they mold *that?*

Ken got a number of suggestions early in the game, such as, "Why don't you lithograph the natural colors of the Earth on the plastic sheet before you mold it into a hemisphere so that you come out with a globe pre-colored to show the Earth as it might appear from space?" Then Ken would have to patiently explain the nearly-insoluble production problem of bringing those colors into registry with the molded relief. Some modern relief globes have accomplished this, but their relief is nowhere near as complete and prominent as the G-PR globe.

In sculpting the relief on Rand McNally's 75-inch Geo-Physical Moon hemisphere, Ken used photos from Lick, Yerkes and other observatories as well as NASA Lunar Orbiter photos. With backside of Luna now photographed, Ken is at work on a complete lunar globe.

To date, thousands of little 12-inch Geo-Physical Relief globes have been sold and are in use in schools, labs, and homes. In spite of the fact that they are colored plain blue, they are still the finest miniature relief globes available. And over sixty of the big 6-footers are in use in universities, museums, planetariums, corporations, and government agencies. This may sound like a modest sales figure for over ten years of work . . . until you learn that the price tag runs between $12,000 and $20,000 each, depending on what the customer wants painted on his globe.

But often the private resources of a couple of individuals are not adequate for needed expansion, and the world was well into the Space Age in 1960 when Ken's big globe was chosen by *Life* and Rand McNally to help illustrate their new world atlas. Ken couldn't make the globes fast enough. So Ken and Sam Berman sold their little company to Rand McNally in 1961, and it became the nucleus for the Rand McNally Geo-Physical Department.

It still takes several months and a staff of several artists to complete a "standard" 75-inch Geo-Physical

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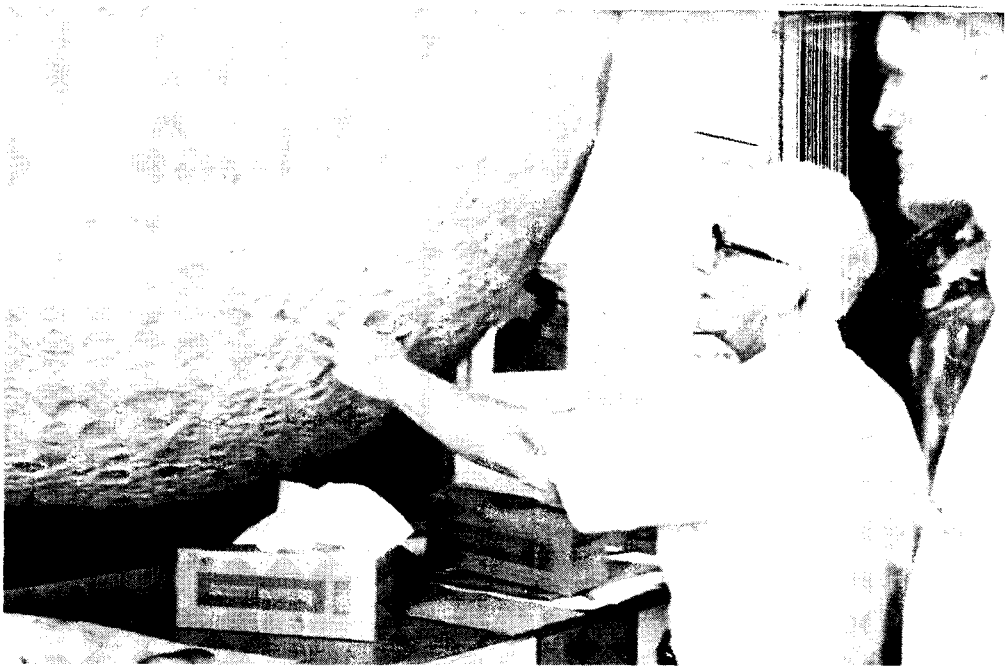

Earth globe. The master molds are assembled from smaller sector molds, resulting in two hemisphere molds. These hemisphere molds are then coated with silicone release agent, and fiberglass-reinforced epoxy plastic is laid into the molds. When the castings are removed from the molds after curing, they are sent to the studios at Rand McNally's Ossining plant where the hair-tearing custom craftsmanship begins.

On Fagg's Geo-Physical Moon hemisphere, Tycho's dominance of nearly half the lunar surface becomes apparent. Details on the limbs are difficult to model because of foreshortening, but Lunar Orbiter photos have helped. But Lunar Orbiters also resulted in relocating some features by as much as 2 degrees!

It is an unworldly experience to visit Ken Fagg's Ossining studio. The plant is one of the old New England Industrial Revolution factories that will undoubtedly stand for centuries while supporting massive floor loads on its heavy brick walls and wooden floors. Out of this heavy industrial atmosphere, one climbs the wooden stairs and suddenly finds himself face-to-face with the world in full natural color and three dimensions hanging against a black background. This is a completed 6-foot globe. Around behind it, the loft is full of hemispheres and globes in various stages of completion.

When the casting comes in, there are little ridges of epoxy on it

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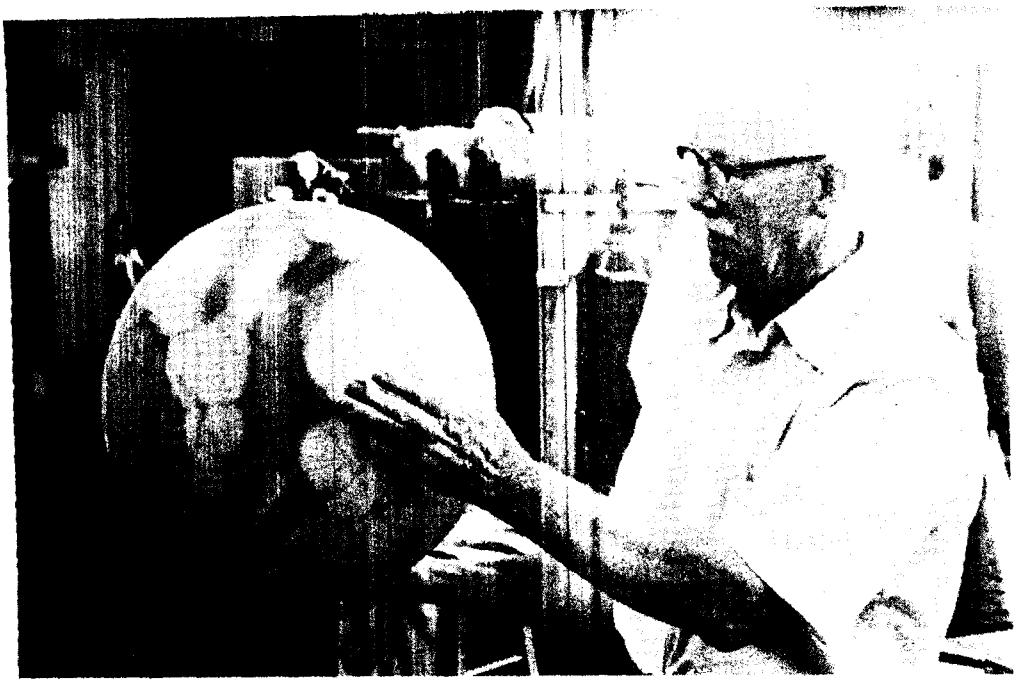

Mars was made for American Airlines advertising campaign and has all canali correct, but enhanced for photographic purposes. Just laying out a globe such as this is work for a couple of weeks in order to correctly locate every feature.

where the various mold sections have been assembled into hemispheres. Each of these little ridges must be carved away by an artist to eliminate them without destroying the mountains, valleys, oceans, plains, and rivers that it runs across.

Hand painting of the globe comes next. The "standard" paint job portrays the Earth with summer vegetation in both the Northern and Southern Hemispheres . . . and no clouds, of course. Special paint jobs can be applied to indicate political boundaries or special points of interest. One globe, used by *Newsweek* magazine, has flat black oceans and flat white land areas with political boundaries marked; this is for photographic purposes and remains at Ossining.

Ken's files at Ossining, combined with the map resources of Rand McNally, are staggering in scope. They cover nearly every land area on Earth, some areas with greater accuracy than others, of course. Using these files plus master color charts, Ken and his staff paint the globes. For large areas, the color is silk-screened on the surface of the globe; this is suitable for such areas as the polar ice caps. Ken has made special epoxy stencils for painting other areas with air brushes. Still, with all of the pro-

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duction aids possible, it takes weeks to paint a globe.

Having the planet Earth at your fingertips also allows you to do a lot of photography, and Ken has made photographs of his big globes from all angles. He has a very large library of photos in black-and-white, duo-tone and full color. This library includes:

a. 86 full-color 4″ x 5″ transparencies covering the globe at every intersection of 15 degrees longitude and 20 degrees latitude up to 60 degrees North and South, plus two polar views.

b. 410 negatives in black and white of the *Newsweek* globe centered on every intersection of 10 degrees latitude and 15 degrees longitude up to 80 degrees North and South and including two polar views.

c. An indentical 410-negative set of duo-tone photos.

d. A special set of full-color transparencies of various areas taken on the oblique with simulated solar lighting to emphasize relief and give three-dimensional quality.

Having put the Earth into mass production, Ken Fagg started working on the Moon several years ago. He worked from the most accurate lunar maps available, plus sets of photos from Yerkes and Lick Observatories . . . and anywhere else he could get them. The result is the Geo-Physical Moon, a 75-inch diameter relief hemisphere of the side of the Moon that faces the Earth.

This Moon is also a startling thing to come upon suddenly in Ken's Ossining studio. It hangs on the wall against a dead-black background. The vertical scale is exaggerated six times—in contrast to the exponential forty times vertical exaggeration of the Earth globe—but this does not detract in the slightest from its reality.

With the data available from the Soviet Luniks and the NASA Lunar Orbiters, Ken has started on a relief globe of the entire Moon. His Moon file is now nearly as big as his Earth file. Carefully stored for reference are the NASA Lunar Orbiter photos, plus the full set of Moon charts from the Air Force Chart and Information Center and the Lunar and Planetary Laboratory of the University of Arizona.

The master complete Moon model is still in preparation as of this writing. These days, Ken can be found seated in front of the Moon sculpting craters, ring walls, and lunar mountains while constantly referring to photos and charts. It's a long and tedious job to make the master globe.

Viewing the Geo-Physical Moon globe is just as fascinating as studying the Earth globe. We tend to visualize both the Earth and the Moon with North side up—or South side up in the case of the Moon insofar as an astronomer sees it. We have

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an equatorial view of worlds. But to look directly down on Tycho reveals how thoroughly that impact crater and its ray system dominate nearly an entire lunar hemisphere. Schiller rectifies to considerably less than an ellipse. Mare Crisium looks quite different when viewed from "above," and this is true of nearly all of the limb and polar regions of the Moon. It is absolutely fascinating to see the Moon as the Apollo astronauts may see it.

To see the far side, even in the rough form of the current master model, is even more unusual because it is totally alien. No human at this writing has yet set eyes on the real thing! There are two striking phenomena on the far side: the near-lack of maria, and Mare Orientale.

With the initial Moon globe in "production" and the second generation lunar model being finished up, it was also natural to Ken Fagg to start modeling the other planets.

American Airlines calls its jet aircraft "Astrojets," a registered service mark, and AAL's advertising agency asked Ken to do a Mars globe. Apparently, they had in mind some ad campaign we have not seen at the time of this writing.

Nobody has ever seen Jupiter from the polar aspect such as the angle of this photo taken as Ken Fagg and Bill Pieper put the finishing touches on the Jupiter model in Ossining.

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Saturn in full color and three-dimensions was made by Ken Fagg for the Gengras Planetarium of the Children's Museum of Hartford, Conn. Data was taken from color photos of the prototype.

Ken's Mars globe is not the first such globe, just as his Earth and Moon globes are not the first of their kind. But Ken's globes are certainly the most accurate and up-to-date planetary models, however. Utilizing data from Lowell Observatory, Pic du Midi, and other observatories specializing in Arean studies, Ken made two Mars globes. One was specially enhanced for photographic work, while the other was primarily made from Vacolours' maps. This second globe is unusual, for Ken has transferred to it painted reproductions of the Mariner photographs so that these overlie the actual areas photographed. In contrast to the color of the rest of the Mars globe, the Mariner photo reproductions are painted on in black and white. It makes an interesting study, and it stresses the point that we have photographed such a very small part of the surface of Mars from Mariner.

When Dick Hoagland of the Gengras Planetarium of the Childrens' Museum of Hartford, Connecticut wanted some models of Jupiter and Saturn to photograph, I sent him to Ken Fagg. Dick's ambitious project involved a planetarium show featuring JPL's "Grand Tour" to the outer planets. This is an actual mission that could be carried out using a Titan III-C with a Centaur upper stage to toss a

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spacecraft out to Jupiter; there, it would tack through Jupiter's gravity well, swing out to Saturn, tack through Saturn's gravity well, swing out to Uranus, tack through Uranus' gravity well, and proceed out to a rendezvous with Neptune. Four planets for the price of one boost from Earth, thanks to a fortuitous planetary configuration that will not repeat itself again for over one hundred years. We may well take this opportunity in 1977, but the entire mission will last nearly nine years. Dick wished to use the new planetarium—this was to be the premier show—to project this mission, using the planetarium in a new role as a space simulator.

So Ken went to work in Jupiter and Saturn models, using the best color photographs of the planets that were available. As with all his small globe models, he first acquired acrylic plexiglas hemispheres from the Farquar Corporation, practically the only commercial source for such things. Then, after cementing two hemispheres together—Ken chose 24-inch diameter spheres for both Jupiter and Saturn—he and his assistant, Bill Pieper, began to paint. Bill is one of the best air-brush artists around and has been making globes with Ken for years. Referring constantly to color transparencies, they produced Jupiter and Saturn.

Saturn's rings were fabricated from ¼-inch plexiglas and tapered at the edges so that, when viewed edge-on, they practically disappear just as they do in reality "out there."

One mistake was made in Jupiter's case: the color transparency was mounted backwards in its frame . . . and Ken produced a mirror image of Jupiter as a result! So you think that you can't have a mirror image of Jupiter, a banded gas-giant planet? Look again! Jupiter's Red Spot gives it all away. The way that the cloud bands form around the Red Spot gives a definite right and left to the planet! However, when this was spotted, it took only a few minutes with an air brush to correct it, thanks to Bill Pieper's skill.

There was no such problem with Saturn.

We are used to seeing pictures of Jupiter printed in black and white, and the same holds true of Saturn. Even through a 6-inch telescope, the colors of both planets are so diffuse that it is difficult to discern them. Few of us have studied the color slides and prints that are available. But Ken Fagg used color transparencies to get his planet models exactly right. Jupiter is quite orange, and Saturn is surprisingly more greenish! Reason: Saturn has a lower temperature.

We are also used to seeing both Jupiter and Saturn from nearly their equatorial planes. We've never really seen banded gas-giant planets from the polar direction. This fact makes the models very

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unusual, because you can view the models from the polar direction . . . and you would not immediately identify them as being Jupiter and Saturn! Jupiter's polar regions, for example, are quite greenish; check color photos to confirm this fact.

When both "planets" were completed and delivered to the film studio in which they were to be photographed, they provided a truly unique experience. One could view them in true three-dimensional form. The motion pictures made by Hogland showing the "Grand Tour" spacecraft's approach and departure from Jupiter and Saturn are highly realistic as a result of the big models.

To obtain photographs of Uranus and Neptune, Hoagland simply used the Saturn globe and filters to change the color to a deeper greenish tinge. Both of these "far out" planets are so small in our telescopes that most surface features of their cloud bands have not been photographed yet, and so the use of Saturn as a stand-in is perfectly reasonable . . . and economical.

Having now made four of the planets and one of the satellites of the Solar System, Ken Fagg is probably the most experienced world-maker extant. But he probably won't stop there. When the next Mariner shot returns more pictures of Mars, you can bet that Ken will be at work utilizing those photos to improve his Mars globe. He's continually improving his Earth globe even yet, because as any map maker knows there is no such thing as an absolutely correct map. Besides, the Earth changes, too. Ken has taken this into account through a series of small globes of the Earth as it might have appeared at various times in the past during the different geological ages. Continental drift no longer seems so unusual when one sees it portrayed on a three-dimensional globe as Ken has done.

Ken's big project right now is an oceanographic version of his Geo-Physical Earth globe. He's painting the ocean areas of a 75-inch globe to give the illusion of depth differences. He's already done the paintings for *Life* depicting the ocean bottoms. His next step may well be the modeling of the ocean bottoms in three dimensions on one of the 75-inch globes.

Ken Fagg's Geo-Physical Globes are not the first three-dimensional relief globes or planetary models, but they are certainly the most modern and most accurate, making use of all possible data gathered in the Space Age. Ken could probably even create a model of a hypothetical planet . . . if you told him what you wanted!

As we stated earlier, about a half-mile north of the Sing-Sing prison in Ossining, New York, a man makes planets. And he's the best planet maker in the business. ■

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Extortion, Inc.

Even when all credit
is handled by computer transfer,
Love—of money, that is!—will find
a way to be crooked!

BY MACK REYNOLDS

Illustrated by Leo Summers

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When the bell rang, Rex Bader looked up from his library screen in mild impatience. Of recent months, he had been on a confidence-game kick and had ferreted out from the library files a dozen books on famed big cons of the past. Some of them were fascinating.

He looked over at the door, which had a large, one-way glass panel. A girl stood there, scowling. He had never seen her before. Rex came to his feet and went over to open up. He was about thirty, five ten, weighed one sixty and moved with a deceptive laziness. The indolence extended to his facial expression as well; he had an easy-going face, quick to smile, laugh wrinkles at the side of his eyes which also held a vulnerable something much doted upon by the various women who had loved him in his time.

The fact that he had never seen his caller before was unfortunate so far as Rex Bader was concerned. She was a clever little trick, as he could see through the door. Her light brown hair was done in the latest ultra-short cut, and there was a pertness to her face that gave a quick impression of youth. You looked twice before realizing that she must be nearly Rex's own age.

Rex opened up and said, "Well, hello."

She looked him up and down and said, "Hello. You're Rex Bader?" She looked at the glass set in the door and then at the doorknob which Rex still held in his hand.

"Little on the weird side, isn't it? Absolutely primitive."

He stood aside to allow her to enter. "I'm in revolt against gadgets," he said. "The more gadgets you have in your sanctum, the more things can go wrong."

She cocked her head. "The last of the individualists, eh?"

"Maybe." For some reason her tone irritated him. He said, "Come on in, Miss. What can I do for you?"

"Probably nothing."

"All right," he said, amiably enough. "Have a chair. Drink?"

She looked around the room. Over the years, he had fixed it up in exactly the manner he wanted. It coincided, perhaps, with what no one else in the United West would want in the way of a home, but it was his sanctum and he was happy with it.

She occupied one of his old-style easy chairs, holding her carry-all primly on her lap, and said, "You might dial me a vodka martini."

"No."

She looked at him and blinked.

He walked over to his bar and opened the cabinet door. "I don't have an autobar."

"You mean you make your own drinks?"

"That's right. I told you I hated gadgets. Something goes out of a

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mixed drink when they're all made exactly alike—fraction of a gram by fraction of a gram. I like my drinks the way *I* like them, possibly a touch more vermouth in a martini than the professional bartenders who devised the measurements of those that you get from an autobar. Possibly I like a jigger and a half of Scotch or Irish in my whiskey and sodas, instead of a jigger."

He allowed a slightly apologetic tone to enter his voice. "I'd mix you a vodka martini, but I don't particularly like vodka and don't stock it." He looked down at his collection of bottles. "Rum, gin, Irish, Scotch, bourbon, Canadian . . ."

She was slightly taken aback. "You mean you keep your grog right here in your sanctum, by the bottle?"

"That's right."

"Mercy-mio, how weird can you get?"

There was that irritating quality again. He said wryly, "Pretty weird if you work at it."

"Never mind the grog," she said. "I drink only vodka martinis. So you're Rex Bader . . ."

"That's right." He returned to his own chair.

". . . The last of the private eyes."

Rex winced. "Yeah, also a shamus, a sleuth, a gumshoe, a dick and half a dozen other terms that are actually never used. So, all over again, what can I do for you?"

She cocked her head at him again. If she hadn't managed to get off on the wrong foot with him, Rex Bader probably would have thought the gesture inordinarily cute.

She said, "Why?"

"Why what?"

"Why are you the last of the private detectives?"

"Because I'm a dizzard, obviously. When I was a kid I picked up some romantic ideas about private detectives, probably from reading some of the old-time thrillers by Dash Hammett and Raymond Chandler. At any rate, when I was in school I took subjects that would lead me to register as a private investigator when I graduated."

She said, "I suspect you're an evader."

"Sage," he said disgustedly. "However, I'm not."

"I understand that evaders have a cute little trick of devoting their studies to such subjects that when they graduate and register for their GAW, the only types of work they're suited for have been automated out of existence. So they then settle back, registered as pretzel benders, or whatever, and collect for the balance of their lives."

Rex sighed. "Admittedly," he said, "I seldom make even minimum Guaranteed Annual Wage,

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and consequently collect. Some months, admittedly, I have no income from my profession at all, and draw down the complete GAW. However, I didn't plan it that way. When I was a kid, there were still some professional private investigators in business."

She said, as though really interested, "What happened to them?"

He shrugged ruefully. "One more field that went under with the coming of the computer, the cashless-checkless economy, the National Bank, the National Credit Card and the pseudo-dollar. In the old days, nine jobs out of ten that private detectives dealt with involved money in one way or the other. But now there isn't any money. Quite a bit of our work involved divorce, but there's precious little of that any more since there's precious little legal marriage. But when there is, the split-up is usually fairly amiable. Why not? With everybody in the country eligible for the Guaranteed Annual Wage, women don't have to worry about child support and alimony."

He snorted self-deprecation and brought forth his plastic, walletlike pocket phone, and indicated the National Credit Card set into the flat cover. "How can you have crime to any extent when nobody else can rob you of your money, con you out of it, gamble it away from you, or in any other way do you out of it? With the National Bank and its computers, nobody can spend your money except you. Sage, but it certainly played havoc with the, ah, private-eye dodge."

She looked at him for a long moment. Finally, she said, "All right, you're a little on the weird side, but I suppose you're sincere. You're a private investigator, largely automated out of business, and hence dependent upon the GAW to get by."

"Well, thanks," he said dryly. "Now that we've established that, where are we?"

"I've got a job for you."

"Sage, what is it?"

"I can't tell you."

Rex said, "Look, Miss . . . Could I at least know your name?"

"Frommer. Nadine Frommer."

"Fine. Now then, excuse me for being a dizzard but how can I work on a job for you if you can't tell me what it is?"

She tinkled a laugh and stood. "I came to check you out," she said. "You're the only private investigator listed in the Professional Directory in all Boswash. We were afraid you might be a labor evader."

Rex had stood, too. "Who's we?"

"My boss and I."

"Who's your boss?"

"I won't tell you as yet. He'll explain."

"Fun and games," Rex sighed. "Look, tell me this much, should I carry a barker?"

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She looked at him questioningly.

"A gun, a gun. Is this the sort of job on which I should expect trouble to rear its ugly head?"

"Why . . . why, I suppose so. I . . . I don't know."

"All right, just a minute."

Rex went into the other room of his apartment and shucked out of his jacket. He opened a drawer and brought forth the Gyrojet pistol and its harness. He strapped the holster under his left armpit, tested the feel of it. He slipped an extra clip of the 9mm rocket cartridges into his pocket then got back into his coat and returned to the living room.

"All right, all set. Let's go see the boss."

He led the way to the door and the elevator and saw her in. "What level?" he said.

"Street. I'm parked up there."

He looked at her, even as he ordered the elevator to street level. "Parked?" he said. "You mean you've got an auto-taxi just sitting there, running up a bill all this time?"

"Not exactly."

The elevator had them up to street level within moments. They emerged from the building and Nadine Frommer began to lead the way across the street toward the park.

His eyes widened to see the buoyant parked there on the grass. *"Mercy-mio,"* he blurted. "Is that *yours*?"

"The buoyant? Of course."

"You can't leave a vehicle parked like that."

She chuckled her amusement at his lack of sophistication. "You can if you have a Number One priority."

As they got closer to the buoyant, he could see the air-cushion vehicle wasn't an auto-taxi. It had been more than fifteen years since he had ridden in anything save an auto-taxi. In fact, he couldn't remember ever having seen before just this model. It was larger than the standard buoyant and considerably more swank.

He stared at her. "Where in the name of Zen did you get this? It's illegal to own a private vehicle. It has been for years."

She activated the door and slid behind the manual controls.

"Pop in," she said. "This isn't privately owned."

He went around to the other side and took the place next to her. She flicked the starter, dropped the lift lever and touched the accelerator with her sandal-shod foot.

"Where's the nearest entry, so we can go under?" she said.

"Straight ahead." He was still staring at her unbelievingly. "There it is. Where are we going?"

"Baltimore section."

"I thought that part of Boswash was almost exclusively taken up with government offices, these days."

"It is," she said laconically.

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She pulled up to the entry to the ultra-expressway and skillfully came to a halt on a dispatcher. She reached over to the dashboard and dialed her destination. Then she relaxed and folded her hands in her lap when the auto-controls of the underground ultra-expressway took over. Within moments they were up to three hundred kilometers an hour.

She said, in what was obviously make-conversation, "Nobody could agree more than I that private ownership of vehicles is illegal and should be illegal. One of the most progressive of the steps taken by the Welfare State of the United West, was to abolish the right of an individual to mismanage the most deadly device ever developed by man. With a hundred million privately owned automobiles in this country, at one time, it's amazing that anyone survived at all. Practically nobody could be trusted to obey the laws which became more and more stringent, and less and less effective. From manufacturer, right on down to the teen-agers who picked up ruins of hot rods for twenty dollars, no one cared how much of a Frankenstein monster the automobile had become. Its exhaust pipe vomited up wastes until the atmosphere was becoming so clogged that life itself on the whole planet was being threatened. Traffic became so thick that either moving, when you wished to move, or parking when you wished to park, became all but impossible. Above all, the mayhem was unbelievable. More people died because of the automobile than ever did in all of our wars put together. It simply had to be ended."

"Sage," he said. "But actually, I don't need a lesson in the undesirability of private ownership of vehicles. And just what are you doing with this one?"

She ignored him and went on, a mischievous note in her voice. She was obviously talking to avoid his questions. "The answer was simple enough. A nationwide, government controlled, rental car agency. Automated traffic, ultra-expressways sunk below ground, all vehicles under the most stringent inspection so that a dangerous buoyant never leaves the garage. Electric rather than petroleum based power."

Her voice took on a pedigogical quality, with a mocking lilt to it. "Now, when a citizen wants a car, he dials on his phone for one. He can dial anything from a little two-seater, to a bus, according to his needs. If he wants a little runabout sports model for an hour or two, it's immediately dispatched. If he wants a limousine in which to spin out to the west coast, at four hundred kilometers an hour, he can dial that. When he's through with it, it automatically takes off to the nearest garage. No more parking at curbs, or in parking lots. You use a buoyant only so long as you need it, and then it takes off. As

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soon as you need another, you dial one. It's there in moments."

"All right, all right, sage," he said in disgust. "Very funny. Now you've told me everything I already knew about private ownership of buoyants."

She said to him, the mockery still there, "O.K., you're supposedly a detective. What have you detected so far? Or is the word, deduced?"

He looked over at her. "That this is a government buoyant."

"Bravo."

"That since you're driving it, you're a government employee. It's a pretty swank buoyant, and you don't dress or do yourself up too badly, either, so obviously your job is a good one. You mentioned your boss. I would guess that you're the secretary of a fairly high-ranking bureaucrat."

"Well," she said. "Not bad."

The speed of the buoyant began to fall off and shortly they entered a side branch of the road, went on a few kilometers and finally came to an entry where the vehicle came to a halt on a dispatcher.

Nadine Frommer took over the manual controls again.

"What else?" she said.

"Whatever he wants to see me about is either personal . . ."

"You flunked there."

". . . Or very hush-hush, since he has called in a private operative rather than depending upon government police."

She brought the buoyant to a halt before a building entry and swung the door open. Rex Bader joined her on the walk and accompanied her to the massive governmental building.

At the door, an armed guard touched a finger to his cap and said, "Miss Frommer."

She nodded impersonally and said, "This is the gentleman of whom you've been informed."

The guard looked at Rex Bader.

Rex brought forth his combination pocket phone, identity and credit card and handed it over. The other put it in the slot of the screen on the desk at the side of the door, and said, "Thumbprint, please."

Rex put his thumb on the correct square on the screen.

The guard said, into the screen, "Identification check, please."

The screen said, "Identification checked."

Rex took the device back and returned it to his pocket.

The guard made a motion with his head toward a small red light which was flickering.

"You're carrying a gun," he said.

"It's licensed," Rex said.

Nadine Frommer said impatiently, "I vouch for Mr. Bader. If you wish, check it out with Secretary MacDonald's office."

The guard said, "Very well, Miss Frommer." He touched his cap.

Rex followed the girl down a short corridor to a bank of elevators.

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Inside, she said, "Top," into the elevator screen.

It said, "Yes, Miss Frommer." And they started up.

Rex said, "Secretary MacDonald. That wouldn't mean . . ."

"Yes, it would. Secretary of Scientific Research Walter MacDonald."

Rex Bader hissed a sighing whistle through his teeth.

The elevator smoothed to a stop and they issued forth into what were obviously outer offices of some very major bureaucrat.

"This way," Nadine Frommer said. She led the way past various desks whose occupants didn't pause in their busy efforts even long enough to look up at the newcomers. There was an impressive efficiency here which was mildly surprising to Rex Bader. Under the present socioeconomic system of State Capitalism, government office workers weren't noted for aggressive efficiency.

A swank door opened before them as soon as Nadine Frommer's face could be distinguished in its screen. They entered, passed through what was obviously a reception room, complete with two girls at desks, busily occupied with voco-typers, screens and other equipment of the secretary. One looked up, nodded and said, "Miss Frommer."

Nadine nodded in return and said, "Betty. Mr. MacDonald is expecting us."

"Yes, Miss Frommer. I know."

She led the way past the desks and to a still swankier door which also opened before them.

Inside, Rex Bader came to a halt. From what had gone before he had expected quite the ultimate in offices that he had ever seen. To the contrary, the interior of the office of Walter MacDonald was on the austere side. Rex got the feeling that this ultimate head of scientific research in the United West had worked his way up the hard way and on the path had become used to certain surroundings and conditioned to them. Had his rank been a bit less Olympian, he might have been branded a weird.

The man who sat at the desk was recognizable to Rex Bader from countless TV broadcasts. However, he seemed older than Rex had expected and right now looked as though he hadn't seen a bed the night before. There was even a bloodshot quality in his eyes and he needed a shave.

Nadine Frommer said, "Mr. Rex Bader, sir."

MacDonald began to say something but Rex held up a hand. "Secretary MacDonald, before you speak. Is it possible that this room is bugged?"

The other looked at him blankly. "Why, why I wouldn't think so."

Rex Bader brought a seeming auto-stylo from an inner pocket. He said, "Just a moment," and be-

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gan carrying the device about the office.

MacDonald said, "What in the name of Zen is that?"

"A mop," Rex said. "It'll detect any bug based on electronics."

Finally satisfied, he turned back to the nation's Secretary of Scientific Research and said apologetically, "Thus far, Miss Frommer has been very secretive and I've assumed that this is confidential. Before you revealed anything at all, I thought we might as well check out whether or not anybody else was listening in."

Walter MacDonald was impressed. "Very efficient of you, Mr. Bader." He was a well built, crisp man, in his early sixties and probably held his years very well save for this present obvious weariness.

He said, "Sit down, Mr. Bader, and you, Nadine."

Rex found a place across from the desk and relaxed. It was the other's top, let him start spinning it.

"We'll waste no time on preliminaries," Walter MacDonald said. "Mr. Bader, what do you know about nuclear weapons?"

Rex shifted his shoulders. "Precious little."

"Tell me."

"Why, I suppose I know what the average citizen does. After a suggestion by Einstein, the United States built the first ones to be used against Japan. If I understand it correctly, the original atomic bomb was a matter of uranium and plutonium splitting into lighter elements that together weigh less than the original atoms, the remainder of the mass appearing as energy. Two of these were dropped on the Japs and Hiroshima and Nagasaki were leveled. When the war ended, the Russians surprised everybody by exploding their first atomic bomb in 1949. Great Britain exploded their first one in 1952, I think it was, and France along about 1960 and China a few years after. The hydrogen bomb came after the A-Bomb. The United States got in kind of a cul-de-sac with its billion-dollar tritium bomb and the Soviet scientists bypassed them by going straight to the cheaper lithium bomb. We beat them by exploding the first thermonuclear device at Eniwetok in 1952, but they were right behind in 1953. The Chinese amazed everyone by getting into the act in the late 1960s."

Rex shrugged again. "I guess that's about all I know. In fact, I'm surprised I knew that much."

Walter MacDonald nodded wearily. "Just a couple of things to add, in the way of background. The first atomic bomb cost literally billions to research and finally to build. It was wartime and expense meant nothing. In spite of the fact that theirs, too, was a crash program, because of the pressures of the then Cold War, the Soviets spent far less, since they were able to avoid some of the mistakes made

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earlier by we Americans. Some of the secrets involved were smuggled out to them by both American and British communist sympathizers and spies. By the time the French built theirs, the costs had dropped considerably, since there were few secrets left and many short cuts had been discovered. And by the time the Chinese joined the club, the cost was a mere fraction of the billions originally spent by the United States. The point I'm making, of course, is that we have finally gotten to the point where the manufacturing of nuclear weapons is not excessively expensive, especially if only one or two were required."

Rex frowned and said, "Well, yes, but no nuc'lear weapons are being manufactured today."

"We hope," Nadine murmured.

Rex Bader looked at her.

"Let me, Nadine," MacDonald said. He went back to Rex Bader. "So far as we know, you are correct. The world, in growing horror at the prospect of more and more nations being armed with the ultimate bomb, finally called a halt. Nuclear weapons were internationally outlawed. Those already stockpiled were destroyed. Inspection was so organized that none of the half dozen major powers which had developed the weapons on their own, could possibly create new ones. And the tiny nations of Africa, South America and so forth could not afford the original research that would be needed."

Walter MacDonald hesitated a moment before going on. "There's one other aspect we ought to mention. Those first atomic bombs, Mr. Bader, weighed tons. But this is the age of miniaturization. Within a few years, we already had nuclear weapons so small that they could be fired by artillery. By the time the bombs were finally banned, they had got them down to the size of a baseball."

"That small?" Rex was surprised.

"Yes." The Secretary of Scientific Research took up a small sheaf of papers from his desk and handed them to Rex Bader. "Please look at this."

They were duplications of blueprints, formulas, math equations, and other scientific material. Rex looked through them, scowling. He looked up finally at the other and shook his head. "I'm a layman, I haven't the vaguest idea . . ."

"Mr. Bader, those are the complete plans enabling any even averagely competent physicist to construct a nuclear mini-bomb."

Rex Bader hissed a whistle through his teeth. "I hope you don't just leave them sitting around."

"Mr. Bader, I have not seen these plans for years. You see, although the major powers no longer construct nuclear weapons, I am sure that the Soviet Complex, as well as we of the United West, have

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the plans for them, and all other pertinent information, in their data banks. Such ultra-secret information, of course, calls for the highest priority, the very highest, before it can be tapped. Theoretically, it is impossible for an individual to gain access to this information, Mr. Bader." He came to a weary halt.

Rex said in puzzlement, "What are you getting at?"

"Yesterday morning, when Miss Frommer entered this office, preparatory to my own arrival, she found this complete set of blueprints and specifications sitting on my desk. As I say, I have not seen these plans for years."

Rex Bader was bug-eyeing him. "Where'd they come from?"

Walter MacDonald took up another piece of paper and handed it over to the private operative.

"A letter," Rex murmured. "You seldom see a letter any more in this day of instant communication with anybody, anywhere, at practically no cost."

The letter was on a ripple finish, twenty-four weight, fifty percent rag content white paper. There was a two-word letterhead, very neatly printed in black. It read:

EXTORTION, INC.

Rex Bader looked up at the scientist.

"Read it," MacDonald said, brushing his hand over his eyes in a gesture of tiredness.

It went:

Extortion, Inc., is in possession of the plans for the economical manufacture of the nuclear minibomb. Unless its demands are met, copies of the said plans will be mailed to the governments of every nation on Earth, including such as Egypt and Israel, India and Pakistan, Cuba, the Congo and all other independent African countries.

The demands are as follows:

1. *Ten million pseudo-dollars to be deposited to our account in Switzerland.*

2. *Guarantee that no efforts to prosecute any member of Extortion, Inc. will be taken.*

3. *That the Intercontinental Bureau of Investigation, nor any other police organization, will not be brought into this matter. Failure to comply with this will mean immediate doubling of the amount involved to twenty million pseudo-dollars, and continuation of failure to comply will mean the immediate carrying out of our threat.*

4. *Within the week, we expect you to appear on national TV with a simple announcement of your acceptance. We will then contact you further with details of how to deposit the sum demanded to our account.*

Sincerely,
Executive Committee
Extortion, Inc.

Rex Bader reread it.

He ran a finger over the print of the letterhead. "Hand set," he murmured, "and undoubtedly printed

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on an old-fashioned platen press." He looked more closely at the typing. "Hand-typed on an old-fashioned electric typewriter by an expert typist."

He looked up at Walter MacDonald.

"Why me? Why didn't you immediately turn it over to the IBI?"

"How did it get on my desk?"

"I wouldn't know."

"It's practically impossible to get into this building, not to speak of getting into my office, unless you're a government employee with correct identification. But above all, how did these members of Extortion, Incorporated ever get into the data banks to secure these plans?"

Rex looked at him, waiting for the science head to go on.

"There's only one possibility. These extortionists have in their ranks some very high-placed employee of this department of government. I have no reason to believe that they might not have even infiltrated the Intercontinental Bureau of Investigation, as well as the National Data Banks. In short, if I attempted to resort to the police, national or otherwise, the blackmailers might immediately know it and then the ten million pseudo-dollar demand would increase to twenty million."

"So that's why you've called in a private investigator."

"Yes. I am completely out of my depth, Mr. Bader. I know nothing about such matters. I need advice."

Rex Bader had put the extortion demand back down on the other's desk. Now he indicated it. "If you turned it over to the IBI boys, they'd go to work with a team of hundreds of agents. There's a lot of things for them to work on. Who has access to the data banks? Who has access to this office? This paper. The type used, which is eighteen-point Stymie, a type face going back to the 1930s. The IBI might crack this in an hour."

Nadine Frommer said, without inflection, "And this executive committee of Extortion, Incorporated might have those plans on their way to every two-by-four government on the planet in ten minutes. Then the race would be on between such countries as Egypt and Israel to see who'd get theirs built and dispatched first."

Rex looked at her and then back to MacDonald. "Have you considered giving in to them?"

"Yes, I've considered it. Taking the whole thing to the President and putting it in his lap, with the recommendation that we pay up. But there's one major difficulty."

"What's that?"

"It would cost a moderately competent physicist ten million pseudo dollars to build one or two nuclear mini-bombs. If this Extortion, Incorporated group got their hands on that amount of money and actually built the bombs, can you imagine the blackmailing weapon they would then have?"

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Rex Bader hissed between his teeth.

He said, "How long ago was it these plans went into the data banks?"

"Five years ago."

"And how many people are there with sufficient priority to take them out?"

"That's it. That's why I'm so bewildered. Nobody."

Rex scowled lack of understanding at him.

MacDonald said, "No one person. It would take an order from the President. And then I, with half a dozen other, very high-ranking officials, would have to combine our priorities to extract this information."

Rex took up the sheaf of plans again and stared at it. "Old-fashioned Xerox duplication," he said.

He shook his head and looked at the Secretary of Scientific Research again. "What did you expect me to do?"

"I . . . I don't know. I've been grasping at straws."

Rex Bader came to his feet. "Well, there's nothing I can do. There's one piece of advice I can give you, though. One of the oldest truths to come down through the history of crime is that you don't satisfy a blackmailer with one payment. They come back, over and over again." He pointed at the letter. "They don't even offer to return the mini-bomb plans to you upon you paying off."

Nadine Frommer said, in astonishment, "You mean you refuse the job?"

"That's exactly what I mean."

"Why, you haven't even asked what Mr. MacDonald would pay you for your assistance."

"I'm a detective, not a crook. There's nothing I can do, and I don't take pay from people just because they're frightened and at their wits end, if I can't help them. The moment I started prowling around in your outer offices there, trying to check out who might have come in here and left the letter and the copy of the plans, then your Extortion, Incorporated would be tipped off and you'd have the same situation as if you rang in the IBI. If you want police help in on this, then don't rely on a single man in strange seas and out of his depth. Bring in your hordes of government police."

"Then you definitely refuse to take the job?" MacDonald said.

"Yes."

Down at the building entry, Rex Bader dialed a two-seater and when it arrived retraced the route over which Nadine Frommer had brought him, after putting his pocket phone, identity credit folder in the appropriate slot.

He was disgusted. Far from getting anything out of this, he was being put to the expense of transporting himself back home. He supposed that he could have asked

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MacDonald for his expenses, but somehow he hadn't been able to bring himself to it. That worthy had enough on his shoulders.

He was unhappy, but he had no regrets. There was simply nothing that he, Rex Bader, could possibly do that the IBI couldn't do much, much better and, with all their manpower, much more quickly.

He dismissed the two-seater buoyant at the street-level entry of his apartment building and took the elevator down to the level of his sanctum. Still feeling disgruntled, he entered his living room and went *immediately over to the bar.*

He fished around in the cabinet and brought forth the bottle of Irish and held it up to the light to check the contents. It was about half full. He poured himself a stiff slug into one of the glasses which sat on the bar top and knocked back about half of it.

"Now, that's grog," he muttered. He sucked air in over his palate, the better to savor the flavor of the synthetic whiskey.

He held the bottle up again and read the label. "In the old days," he said to himself, "they would've had to age grog twenty years to even approximate this. Nothing like science."

He began to bring his glass up to his lips again. Felt the blackness rushing in. Tried to steady himself with a hand against the bar. Crumbled to the floor, dropping bottle and glass on the way down.

When he awoke, in the morning, his head was burning agony, and he stank of Irish whiskey. The carpeting in his vicinity was impregnated with the spilled synthetic grog and much of it had soaked into his clothes.

He sat up, groaning. "Mercymio," he muttered. "What in the name of Zen happened?"

He staggered erect and made his way into the kitchenette and to the sink there. He turned on the cold water and put his head under it. When he came erect, to fumble for a towel, he spotted something on *the small table. Something that* didn't call for being there.

He went over and took it up, even before drying himself.

The letterhead read *EXTORTION, INC.*, and below:

Mr. Rex Bader:

You have seen fit to disobey Demand Three.

Please inform your employer, Secretary MacDonald, that the sum required by Extortion, Inc. will now be twenty million pseudo-dollars and that you will either remove yourself from this matter or our threat will immediately be implemented.

Sincerely,
Executive Committee
Extortion, Inc.

He shook his head in an attempt to achieve clarity, and stared at the note for long moments.

"You boys aren't as efficient as

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you'd like to put over," he muttered. "Somebody got the wrong message."

He wobbled back into the living room and over to his bar.

"Dammit, I hope you didn't put Mickies in every bottle in my stock."

But it wasn't that. Investigation indicated that, instead, every one of the glasses which lined the top of his bar had a minute amount of powder in it. Whoever had wanted to be sure he took his knockout drops, had simply poisoned every glass available.

He sank down into a chair and ran his fingers through his wet hair. "But *why,*" he complained.

And came up with no answer.

There was no answer. But, for that matter, there was no answer to a lot of things about this whole ridiculous mess of an affair.

But there had to be. What was the old wheeze that Sherlock Holmes used to pull on Watson, or whatever that doctor's name was? Something about, eliminate the impossible and what is left, no matter how seemingly improbable, is the actuality.

All right, sage. MacDonald said that it was impossible for the data banks which contained the nuclear mini-bomb plans to have been tapped. It was also impossible for an outsider to have penetrated to the office of the Secretary of Scientific Research. It was also impossible that . . .

He came to a halt, intuition taking over.

After a few moments, he got to his feet and went into the other room and stripped himself of his drink-impregnated clothing. He took a shower, got fresh clothes on and then returned to his living room. He brought his pocket phone from his clothing and opened it and activated it.

He said into the screen, "I want the offices of Secretary Walter MacDonald, of the Department of Scientific Research."

The face that soon filled the small screen was new to him.

"Offices of Secretary MacDonald," she said briskly.

Rex said, "This is Rex Bader. I'd like to talk to Miss Frommer."

"Could you state your business, sir? Miss Frommer is always busy."

"She'll be busier still," he said bluntly. "Tell her Rex Bader has changed his mind and will be down as soon as a buoyant will bring him."

He switched off the phone and grunted.

Nadine Frommer met him in the reception room outside Secretary MacDonald's office. Her eyes were wide. "Are you mad?" she said.

"If you mean crazy," he said grimly, "no. If you mean angry, yes. Come on, I want to see your boss." His characteristic easy-going air was gone with the snows of yesteryear.

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"I'm not sure that it's a good idea," she said worriedly.

"Come on, come on," he growled. "Sooner or later, I'll see him. I've got something." He brought the letter he had found in his kitchenette from his pocket and waved it in her direction.

She shrugged slight shoulders and approached the door to the private office of the Secretary of Scientific Research. It opened before them.

Walter MacDonald was as before —if anything, exhaustion showing more definitely. Rex Bader wondered if the other had missed another night of sleep.

The scientist frowned at him. "What possibly could have happened to make you change your mind? Your reasons for refusing made sense."

"Have you taken any steps yet?" Rex demanded.

"No. No, I suppose I should," the other said in exhaustion. "But no matter what I do will be wrong."

Rex Bader plunked himself down in the same chair he had occupied the day before and tossed the new letter on MacDonald's desk. He picked it up wonderingly.

Rex said, ignoring the stare of Nadine Frommer, "Yesterday, when I got home from here, I took a drink. I needed it. The glass had been loaded with knockout drops. When I awakened this morning, I found that on the table of my kitchenette."

MacDonald said, "But this is ridiculous. You didn't accept the job."

Rex ignored him. He said, "The *implication* was that while I was here in your offices, somebody broke in and doped my glasses, and then, last night, while I was under the influence of the drug, entered my apartment again and left this letter. But that's not really what happened. The letter was written and stashed on that table before I ever met you, and before you gave me your pitch."

Nadine Frommer said, "What in Zen are you talking about?"

Rex pointed at the letter. "There's been a lot of misdirection and I'm a dizzard not to have caught on sooner. However, answer me this: How many members are there in Extortion, Incorporated?"

MacDonald said, in puzzlement, "Why, how would I know? Evidently, quite a crew to accomplish all this."

"To accomplish all what? Why need there be more than one?"

Nadine blurted, "Why, ridiculous. That's signed, the Executive Committee."

"Sage, that's the way it's signed, but so what? The way the letter is worded, and all, the implication is that a whole flock of baddies are involved, but we've seen nothing that couldn't have been accomplished by one person. A real jazzer, admittedly, but one person. Somebody who could hand-set

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type, somebody who could set up a small platen press, somebody who could use an old-fashioned electric typewriter and an old type Xerox. Somebody who was cool enough to put knockout drops in a supposedly inadequate private detective's glasses on his bar while he was in the next room getting his gun, and planting a letter in on the kitchenette table, knowing that he would leave the apartment before going in there."

Both of them were staring wide-eyed at him.

He said doggedly, "You claimed that it was impossible for anybody to tap that information from the data banks. All right. How long has it been in the data banks?"

MacDonald said: "Five years."

"Sage. Who could have Xeroxed those plans *before* they were ever filed away?

MacDonald's eyes went unbelievingly to his secretary.

Rex snapped, "I assume you have top priorities so far as the data banks are concerned. I suggest you look up the complete dossier of our little girl, here. Under education, under hobbies. I'll bet you dollars to doughnuts that somewhere along the line she's studied handicrafts, hand-setting type and printing in particular."

"Why, this is absolutely impossible," MacDonald snorted.

"Sage. Take your pick. There are only two persons that could have pulled this romp. You and Nadine Frommer. At your age, and in your position, I doubt if even ten million pseudo-dollars stashed away in Switzerland would motivate you. But our girl, Nadine, has a good many years ahead of her. Even if it was discovered later, after she had fled the country, that the whole romp was conceived and carried out by her, the United West would never let it become public. National prestige couldn't stand the horselaugh that would bring."

Rex looked at her. "She made just one big blockbuster of a mistake, in spite of five years of careful planning of every eventuality. She couldn't imagine anyone being less dollar hungry than she is. She couldn't expect a second-rate private detective to turn down a job that would possibly be the most lucrative one ever offered him. So she wrote that letter she left on my kitchenette table, before I even talked to you."

His eyes went back to MacDonald. "Tear up those plans. I suspect they're the only copy she had. However, ring in your IBI boys and send them prying into every place she might have stashed her little hand-operated printing press, her stationary, and her electric typewriter."

Nadine Frommer let out an enraged squeal and darted for the door.

Her boss looked after her in shock.

He said, "Nadine!" ■

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Wolfling

Second of Three Parts. Getting to the Galactic ruling planet took planning and luck; getting to the Galactic Ruler, however, presented other impossibilities!

BY GORDON R. DICKSON

Illustrated by Kelly Freas

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Synopsis

James Keil, anthropologist, is the sole product of a massive project of Earth's, which has brought him finally to play bullfighter in an outdoor arena of the third world of Alpha Centauri. The purpose of this is not to entertain the natives of that world, but to interest a handful of the High-born, aristocrats of an interstellar Empire to which Alpha Centauri—and maybe Earth—belongs.

Ten years before a spaceship from Earth exploring out to Alpha Centauri discovered three worlds there inhabited by a people undeniably human. These informed the explorers that Alpha Centauri was merely an outpost of a huge, human Empire stretching inward into the galaxy—and that Earth can only be another part of this ancient Empire, colonized long ago and forgotten.

To Earth's people, the technological advantages of belonging to the advanced Empire are obvious. But whether such belonging would be equally advantageous emotionally and sociologically—whether, in fact, it might not be completely destructive to the independent human spirit evolved on Earth—becomes a burning question.

Therefore, Jim has been trained and sent to display the Spanish art of bullfighting in the hope of amusing the visiting High-born. Earth's hope is that, if sufficiently amused, the High-born may take him back with them to their Throne World—a world forbidden to any but the Emperor, the High-born and their servants. On the Throne World Jim can perhaps gather data with which Earth can determine to go with the Empire, or try to flee it.

Under the Alpha Centauran sun, Jim successfully fights and kills his bull. The Princess Afuan, leader of the High-born visitors and aunt to the distant Emperor, appears suddenly on the arena sand beside him. Afuan is as tall as Jim, himself, who is six feet six; and like all the High-born, she has onyx-white skin, catlike yellow eyes, white hair and eyebrows. She tells Jim to report to the High-born's ship, to be taken back to the Throne World.

Jim returns to his dressing room and finds himself confronting an angry Max Holland—Jim's liaisonman with the Project and Jim's theoretical superior in it. Max has found a small knife and a revolver in the luggage Jim is taking with him to the Throne World. This discovery has confirmed Max's longheld and growing suspicion that Jim has a personal, selfish reason for wanting to be the first Earth-human on the Throne World.

Max grimly orders Jim to abort the Project. Jim refuses—pointing out that Afuan has invited him and would hardly permit her orders to be countermanded. He repacks his archaic-seeming—by Empire standards—weapons and goes. Behind him, he hears Max:

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". . . Observe! *That's what you're being sent there to do!* Nothing else! *Do anything else, Jim, to get Earth into trouble with the High-born, and we'll shoot you, like a mad dog, when you get home!"*

Outside, Jim takes a car to the spaceship of the High-born. Once aboard, he finds himself in the care of a High-born girl named Ro; a shirttail relative of Afuan, who looks after Afuan's managerie of pets—to which Jim has just been added.

Ro is a throwback, lacking the onyx skin, white hair and yellow eyes that the High-born have developed to mark their aristocracy. She is no more than five feet ten in height; but she is impulsively warm-hearted, with a deep affection for the pets, which Afuan hardly remembers possessing. Unthinkingly, Ro wraps Jim in this same affection.

She settles him aboard ship; and leaves him to change out of his bullfighting costume. While he is putting on a kilt and the little knife, a seven-foot tall High-born male appears and transfers him—all movements about the ship are by instantaneous shift from one room to another; there are no ordinary doors or corridors—to another room. He tells Jim to wait; and disappears.

In the room is a tigerlike feline which slowly begins to stalk Jim; and ends up leaping for his throat. Jim, however, does not move, and a second before contact, the beast disappears. Three of the tall, High-born males appear. One is the man who brought Jim to this room; another is a High-born named Mekon. A third, tall even for a High-born, is a languid fellow named Slotheil.

It turns out that Jim has been the subject of a bet. Mekon wagered Slotheil that Jim would run from the feline; and Mekon demands Jim tell him now why he did not. Jim answers that since the Princess Afuan was counting on showing him off to the Emperor, it seemed unlikely anything would be allowed to happen to him.

Slotheil, apparently something more than the lazy-voiced, supercilious aristocrat he appears, is favorably impressed by Jim's perceptivity and courage. Mekon, however, is enraged; and when Ro appears in search of Jim, Mekon turns on her. Jim wounds Mekon slightly with his knife in protecting Ro from the High-born; and Mekon, in a fury, goes for duelling weapons. Ro, however, goes for help and returns with Afuan and a cousin of the Emperor, Galyan—a cold-eyed High-born as tall or taller than Slotheil.

Afuan orders Mekon, now returned, to keep hands off Jim. She disappears, leaving matters in Galyan's hands, with orders to "fine" Mekon. Galyan takes Jim back to his own quarters, and demonstrates

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on his servants how the High-born have faster physical reflexes than any of the lesser races. So that in a duel with Mekon, Jim could hardly have survived.

Galyan queries Jim closely about the people of Earth, with the implication that he might have a personal use for them. In parting, he warns Jim chillingly that only by pleasing him, Galyan, personally, *can Jim ever hope to see Earth again.*

Jim hunts for Ro and finds her in the menagerie, weeping over the dead body of the feline which had attacked Jim. It had been a former pet of Afuan's, later given to Mekon; and its destruction was Galyan's "fine" leveled against Mekon.

Ro, roused out of her usual gentleness, says fiercely that they may destroy her pets, but she will not let them destroy Jim. She begins to teach Jim the things he will need to know for survival on the Throne World. Jim is startled to discover that Ro, like all High-born, knows literally *everything necessary to make the Empire's advanced technology work. She, in turn, is astonished to find that Jim, unlike the usual members of the lesser races, needs to be told anything only once, in order to remember it.*

The ship reaches the Throne World. Jim is put to work training Afuan's servants to assist him in the bullfight before the Emperor. Afuan appears in Jim's dressing room just before the bullfight. She tells Jim she is not unaware that he has made quite an impression—not merely on Ro, but on Slotheil, and even Galyan. Without warning, she commands him to look at her, and triggers in herself an almost hypnotic power of seduction. Jim manages to resist her, however, leaving her startled and displeased.

". . . But, I think I understand you now, wild man," she says with slitted eyes. "Something in you at some time has made you ambitious, with an ambition larger than the universe."

She disappears. Jim goes out to fight and kill his bull. Then he approaches the Imperial box. The Emperor, a tall, pleasant, intelligent-looking High-born, gazes down at him. But then, his yellow eyes begin to shine with an unusual brightness and become slightly unfocused. A small trickle of saliva comes suddenly from one corner of his mouth.

"Waw . . ." he babbles, beaming brightly at Jim. "Waw . . ."

Part 2

V

Jim stood still. There was nothing to give him a clue as to how he should react. The rest of the High-born in the Imperial box—in fact all the High-born within view—seemed deliberately to be paying no attention at all to whatever fit

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or stroke had suddenly taken the Emperor. Plainly, Jim judged that he would be expected to ignore it also. Afuan and all the others in the royal box merely sat as if the Emperor and Jim were engaged in a private conversation. In fact, so persuasive and so massive was the reaction that was no reaction that it had something of the same hypnotic compulsion that Afuan had used earlier, except that in this case it seemed determined to convince not only Jim but themselves that what was happening to the Emperor was not happening.

—Then, suddenly, it was all over.

The saliva vanished from the Emperor's jaw as if an invisible hand had wiped it away. His smile firmed, his eyes focused.

". . . Moreover, we are exceedingly interested to know more about you," the Emperor was suddenly saying, as if continuing a conversation that had been going on for some time. "You are the first Wolfling we have seen in many years, here at our court. After you have rested, you must come to see us and we'll have a talk."

The Emperor's smile was open, frank and charming. His voice was friendly; his eyes intelligent.

"Thank you, Oran," replied Jim. He had been instructed by Ro that while the Emperor was always referred to as "The Emperor" in every way except direct address, when one was speaking to him directly one always called him simply by his first name—Oran.

"You're entirely welcome," said the Emperor, smiling cheerfully. He vanished—and a second later all the seats in the stands were empty of High-born.

Jim visualized his own quarters; and was instantly back in them. Thoughtfully, he began to remove his costume. He was struggling out of the tight jacket, when he suddenly felt himself assisted from behind; and, looking around saw Ro helping him.

"Thank you," he said, and smiled over his shoulder at her, as the jacket came off. She went on helping him, her eyes fixed on the floor; but a dark flush stained her downcast features.

"I still think it's terrible." she muttered to the floor. "But I didn't realize—" Suddenly she lifted her face to him, paling again. "Jim, that animal was trying to kill *you*."

"Yes," said Jim, feeling once more the secret, internal touch of shame that came to him whenever he remembered how his bullfighting was rigged, rather than honest. "That's the way it is."

"Anyway," said Ro, in very nearly a grim tone of voice, "if we're lucky, you won't ever have to do it again. It's a stroke of luck to start off with the Emperor being interested in you. And . . . guess what?"

She stopped assisting him; and he stood there, half undressed,

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staring quizzically down at her.

"What?" he asked.

"I've found a sponsor for you!" she burst out excitedly. "Slothiel! He liked you when you didn't flinch —that first time he saw you. And he's willing to have you numbered among his acquaintances. Do you know what that means?"

She stopped and waited for his answer. He shook his head. What she was talking about now was something she had not gone into aboard the ship.

"It means you're not really in the servant class, from now on!" she burst out. "I'd hoped to get someone to sponsor you—but not this soon. And I didn't want to raise your hopes by mentioning it. But Slothiel actually came to me!"

"He did?" Jim frowned internally, although he was careful to keep his physical brow smooth for Ro's benefit. He wondered if Slothiel had anything to do with Afuan's visit to him earlier—or with what Galyan had said to him aboard the ship. He found himself on the verge of asking Ro this; and then he changed his mind. Afuan's visit, and the reaction she had tried to provoke in him, he found, was not something he wanted to tell Ro about—at least, not just yet.

He came out of his thoughts abruptly to realize that Ro was still busily undressing him, with no apparent self-consciousness about the matter. He had no great self-consciousness about it himself. But Ro's attitude struck him just then as being a little too zealously proprietary; like that of an owner lovingly grooming a pet horse or dog for show purposes. Besides, Jim had needed assistance, not complete care and handling.

"That's fine," he said, moving out of her grasp. "I can handle the rest of it myself."

He picked up his Black Watch kilt, from the hassock on which he had dropped it, when he had hastily started to dress for the bull ring. He put it on, together with a short-sleeved green shirt. Ro watched him with fond pride.

"Tell me more about this sponsorship business," said Jim, "sponsorship for what?"

"Why," said Ro, opening her eyes wide, "for Adoption by the Throne World, of course. Don't you remember? I told you that still, occasionally, a few rare people of unusual abilities or talents are allowed to move from one of the Colony Worlds to the Throne World and join the High-born? Though, of course, they aren't really High-born, themselves; the best they can hope for is that their great grandchildren will become true High-born. Well, that whole process is called Adoption by the Throne World. And Adoption proceedings start by someone among the High-born who's willing to act as sponsor to whoever wants to be Adopted."

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"You're thinking of getting me Adopted as a High-born?"

"Of course not!" Ro literally hugged herself with glee. "But, once you've been sponsored, the Adoption proceedings have been started. And you're protected by the Emperor's authority as a provisional High-born, until he gets around either to accepting you, or refusing you. And the thing is, nobody ever gets refused, once he's been sponsored, unless he's done something so bad that there's no alternative but to get him off the Throne World. Once Slothiel sponsors you, none of the High-born can do anything to you the way they can to a servant. I mean, your life's protected. None of the High-born—not even Afuan or Galyan—can simply act against you. They have to complain about you to the Emperor."

"I see," said Jim, thoughtfully. "Should I mention that Slothiel is going to do this when I talk to the Emperor?"

"Talk to the Emperor?" Ro stared at him, and then burst out laughing. But she stopped, quickly; and put an apologetic hand on his arm. "I'm sorry. I shouldn't have laughed. But the chances are you'll spend your whole life here and never talk to the Emperor."

"The chances are wrong, then," said Jim, "because after the bullfight the Emperor asked me to come and see him as soon as I'd had a chance to rest a bit."

Ro stared at him. Then slowly she shook her head.

"You don't understand, Jim," she said, sympathetically. "He just said that. Nobody *goes* to see the Emperor. The only time they see him is when he has them brought to him. If you're going to see the Emperor, you'll suddenly find yourself brought into his presence. Until then, you just have to wait."

Jim frowned.

"I'm sorry, Jim," she said. "You didn't know it, but the Emperor often says things like that. But then, something else comes up and he forgets all about it. Or else he just says it without meaning it, just because it's something to say. Like paying a compliment."

Jim smiled, slowly; and Ro's face paled again.

"Don't look like that!" she said, catching hold of his arm again. "No one should look savage like that."

"Don't worry," said Jim. He erased the grin. "But I'm afraid you're wrong. I'm going to see the Emperor. Where would he be?"

"Why in Vhotan's office, this time of day—" she broke off suddenly, staring at him, "Jim, you mean it! Don't you understand? You can't go there—"

"Just show me the way," said Jim.

"I won't!" she said. "He'd order his Starkiens to kill you! Maybe they'd even kill you without waiting to be ordered—"

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"Oh? And why should the Starkiens want to kill our wild man?" broke in Slothiel's voice, unexpectedly. They turned to discover the tall High-born had just materialized in the room with them. Ro wheeled upon him as if he were the cause of her argument with Jim.

"After the bullfight the Emperor told Jim to rest a while, then come and see him!" said Ro. "Now Jim wants me to tell him how to get to the Emperor! I told him I won't do it!"

Slothiel broke out laughing.

"*Go* to the Emperor!" he echoed. "Well, why don't you tell him? If you won't, I will."

"You!" flared Ro. "And you were the one who said you'd sponsor him!"

"True," drawled Slothiel, "and I will—because I admire the man and because I'll enjoy the look on Galyan's face when he hears about it. But if . . . what did you say his name is . . . Jim is bound and determined to get himself killed before the sponsorship can be arranged, who am I to interfere with his fate?"

He looked at Jim over the head of Ro, who had pushed herself between them.

"You really want to go?" Slothiel said.

Jim smiled again, grimly.

"I'm a Wolfling," he said. "I don't know any better."

"Right," said Slothiel, ignoring Ro's frantic attempts to silence him by voice and hand over his mouth. "Hang on. I'll send you there—for all the Emperor and Vhotan will know, you found the way yourself."

Immediately, Jim was in a different room. It was a very large, circular room, with some sort of transparent ceiling showing a cloud-flecked sky above them—or was the sky with its clouds merely an illusion overhead? Jim had no time to decide which; because his attention was taken up by the reaction of the half dozen people already in the room, who had just caught sight of him.

Of the half dozen men in the room, one was the Emperor. He had checked himself in mid-sentence on seeing Jim appear; and he stood half turned from the older, powerfully-bodied High-born who had sat at his right during the bullfight. Standing back a little way from these two, with his back to Jim, and just now turning to see what had interrupted the Emperor, was a male High-born whom Jim did not recognize. The other three men in the room were heavily-muscled, gray-skinned, bald-headed individuals like the one Galyan had referred to as his bodyguard. These wore leather loin straps, with a black rod thrust through loops in the belt around their waist, and about the rest of their body and limbs were metallic-looking bands; which seemed to fit and cling to

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position on them more like bands of thick, elastic cloth than metal. At the sight of Jim, they had immediately drawn their rods; and were aiming them at Jim, when a sharp, single word from the Emperor stopped them.

"No!" said the Emperor. "It's —" he seemed to peer at Jim without recognition for a second; then a broad smile spread across his face. "Why, it's the Wolfling!"

"Exactly!" snapped the older High-born. "And what's he doing here? Nephew, you'd better—"

"Why," interrupted the Emperor, striding toward Jim, still smiling broadly at him, "I invited him here. Don't you remember, Vhotan? I issued the invitation after the bullfight."

Already, the Emperor's tall body was between Jim and the three thick-bodied armed bodyguards. He stopped one of his own long paces away from Jim; and stood, smiling down at him.

"Naturally," the Emperor said, "you came as soon as you could, didn't you, Wolfling? So as not to offend us by keeping us waiting?"

"Yes, Oran," answered Jim.

But now, the older man, called Vhotan, and who was apparently the Emperor's uncle, had come up to stand beside his nephew. His lemon yellow eyes under their yellowish tufts of eyebrows glared down at Jim.

"Nephew," he said, "you can't possibly let this wild man get away with something like this. Break protocol once, and you set a precedent for a thousand repetitions of the same thing!"

"Now, now, Vhotan," said the Emperor, turning his smile appeasingly on the older High-born. "How many Wolflings have we on our Throne World who don't yet know the palace rules? No, I invited him here. If I remember, I even said I might find him interesting to talk to; and now, I believe I might."

"Sit down, Wolfling," he said. "You, too, uncle—and you, Lorava"—he glanced aside at the third High-born, a slim, younger male who had just come up—"let's all sit down here together and have a chat with the Wolfling. Where do you come from, Wolfling? Out toward the galaxy's edge of our Empire, isn't it?"

"Yes, Oran," Jim answered. He had already seated himself; and reluctantly Vhotan was lowering himself to a hassock beside the Emperor. The young High-born called Lorava took two hasty strides up to them and also sat down on a nearby pillow.

"A lost colony. A lost world," mused the Emperor, almost to himself, "filled with wild men—and no doubt wilder beasts?"

He looked at Jim for an answer.

"Yes," said Jim, "we still have a good number of wild beasts—although that number has been reduced in the last few hundred

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years, particularly. Man has a tendency to crowd out the wild animals."

"Man has a tendency to crowd out even man, sometimes," said the Emperor. For a moment, a little shadow seemed to pass behind his eyes; as if he remembered some private sadness of his own. Jim watched him with careful interest. It was hard to believe that this man before him was the same one he had seen drooling and making incoherent sounds in the arena.

"But the men there—and the women. Are they all like you?" the Emperor said, returning the focus of his eyes to Jim.

"Each one of us is different, Oran," said Jim.

The Emperor laughed.

"Of course!" he said. "And no doubt, being healthy wild men, you prize the difference; instead of trying to fit yourself into one common mold. Like we superior beings, we High-born of the Throne World!" His humor calmed slightly. "How did we happen to find your world, after having lost it so many centuries, or thousands of years ago?"

"The Empire didn't find us," said Jim. "We found an outlying world of the Empire."

There was a second's silence in the room, broken by a sudden half-snort, half-bray of laughter from the youngster, Lorava.

"He's lying!" Lorava sputtered. "They found us? If they could find us, how did they ever get lost in the first place?"

"Quiet!" snapped Vhotan at Lorava. He turned back to Jim. His face, and the face of the Emperor were serious. "Are you telling us that your people, after forgetting about the Empire, and falling back into complete savagery, turned around and developed civilization all over again—including a means of space travel?"

"Yes," said Jim, economically.

Vhotan stared hard into Jim's eyes for a long second, and then turned to the Emperor.

"It might be worth checking, nephew," he said.

"Worth checking. Yes . . ." murmured the Emperor. But his thoughts seemed to have wandered. He was no longer gazing at Jim, but off across the room at nothing in particular; and a look of gentle melancholy had taken possession of his face. Vhotan glanced at him; and then got to his feet. The older High-born stepped over to Jim, tapped him on the shoulder with a long forefinger and beckoned for him to rise.

Jim got to his feet. Behind the still-seated, still abstractly gazing Emperor, Lorava also rose to his feet. Vhotan led them both quietly to a far end of the room, then turned to Lorava.

"I'll call you back later, Lorava," he said brusquely.

Lorava nodded and disappeared. Vhotan turned back to Jim.

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"We've had an application from Slothiel, to sponsor you for Adoption," Vhotan said, briefly. "Also, you were brought here by the Princess Afuan; and I understand you had some contact with Galyan. Are all of those things correct?"

"They are," said Jim.

"I see . . ." Vhotan stood for a second, his eyes hooded thoughtfully. Then his gaze sharpened once more upon Jim. "Did any of those three suggest that you come here just now?"

"No," answered Jim. He smiled slightly at the tall, wide-shouldered old man towering massively over him. "Coming here was my own idea—in response to the Emperor's invitation. I only mentioned it to two other people. Slothiel and Ro."

"Ro?" Vhotan frowned. "Oh, that little girl, the throwback in Afuan's household. You're sure *she* didn't suggest your coming here?"

"Perfectly sure. She tried to stop me," said Jim. "And as for Slothiel —when I told him I was coming, he laughed."

"Laughed?" Vhotan echoed the word, then grunted. "Look at my eyes, Wolfling!"

Jim fastened his own gaze on the two lemon-yellow eyes under the slightly yellowish tufts of eyebrows. As he gazed, the eyes seemed to increase in brilliance and swim before him in the old man's face until they threatened to merge.

"How many eyes do I have?" he heard Vhotan's voice rumbling.

Two eyes swam together, like two yellowish-green suns, burning before him. They tried to become one. Jim felt a pressure upon him like that of the hypnotic influence Afuan had tried to bring to bear on him before the bullfight. He stiffened internally, and the eyes separated.

"Two," he said.

"You're wrong, Wolfling," said Vhotan. "I have one eye. One eye, only!"

"No," said Jim. "The two eyes remained separate. I see two."

Vhotan grunted again. Abruptly his gaze ceased burning down upon Jim; and the hypnotic pressure relaxed.

"Well, I see I'm not going to find out that way," said Vhotan, almost to himself. His gaze sharpened upon Jim again—but in an ordinary, rather than a hypnotic, fashion. "But I suppose you understand that I can easily find out if you've been telling the truth."

"I assumed you could," said Jim.

"Yes . . ." Vhotan became thoughtful again. "There's a good deal more here than surface indication implies . . . Let's see, the Emperor can act on Slothiel's application for sponsorship, of course, but I think you'll need more than that. Let's see . . ."

Vhotan turned his head abruptly to the right and spoke to empty air.

"Lorava!"

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The thin, young High-born appeared.

"The Emperor is appointing this Wolfling to an Award Commission as unit-officer in the Starkiens. See to the details and his assignment to a section of the palace guard. And send Melness to me."

Lorava disappeared again. About three seconds later, another, smaller man materialized where he had stood.

He was a slim, wiry man in typical white tunic and kilt, with close-cropped, reddish hair and a skin that would almost have matched the color of Jim's own, if there had not been a sort of sallow, yellowish tinge to it. His face was small and sharp-featured, and the pupils of his eyes were literally black. He was clearly not one of the High-born, but there was an air of assurance and authority about him which transcended that even of the armed bodyguards called Starkiens.

"Melness," said Vhotan, "this man is a Wolfling—the one that just put on the spectacle in the arena a few hours ago."

Melness nodded. His black eyes flickered from Vhotan to Jim, and back to the tall, old High-born once more.

"The Emperor is appointing him to an Award Commission in the Starkiens of the palace guard. I've told Lorava to take care of the assignment; but I'd like you to see to it that his duties are made as nominal as possible."

"Yes, Vhotan," answered Melness. His voice was a hard-edged, masculine tenor. "I'll take care of it—and him."

He vanished, in his turn. Vhotan looked once more at Jim.

"Melness is major domo of the palace," Vhotan said. "In fact, he's in charge, at least in theory, of all those not High-born, on the Throne World. If you have any difficulties, see him. Now, you can return to your own quarters. And don't come here again unless you're sent for!"

Jim visualized the room where he had left Ro and Slothiel. He felt the slight feather touch on his mind; and at once he was back there.

Both of them, he saw were still there. Ro rushed at him, the minute she saw him, and threw her arms around him. Slothiel laughed.

"So you came back," said the languid High-born. "I had a hunch you would. In fact, I offered to bet on the point with Ro, here—but she's not the betting kind. What happened to you?"

"I've been given an Award Commission in the Starkiens," said Jim, calmly. His eyes met Slothiel's. "And Vhotan tells me that the Emperor will act promptly upon your offer to sponsor me."

Ro let go of him and stepped backward, staring up at him in astonishment. Slothiel condescended to raise his eyebrows in surprise.

"Jim!" said Ro, in a wondering

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tone. "What . . . what *did* happen?"

Briefly Jim told them. When he was done, Slothiel whistled, admiringly and cheerfully.

"Excuse me," he said. "This looks like a good chance to clean up on a few small bets before the rest of the Throne World hears about your promotion."

He disappeared. Ro, however, had not moved. Looking down at her, Jim saw that her face was tightened by lines of worry.

"Jim," she said, hesitantly, "Vhotan did ask exactly that about me, did he? About whether I might've suggested that you go to the Emperor that way? And he asked that after he remembered that I was in Afuan's household?"

"That's right," said Jim. He smiled, a little bleakly. "Interesting, isn't it?"

Ro shivered suddenly.

"No, it isn't!" she said tensely, but in a low voice. "It's frightening! I knew I could teach you things and help you survive here in the ordinary way. But if things are going on in which others of the High-born want to use you . . ." Her voice trailed off. Her eyes were dark with unhappiness.

Jim considered her in silence for a moment. Then he spoke.

"Ro," he said, slowly, "tell me. Is the Emperor ill?"

She looked up at him in astonishment.

"Ill? You mean, sick?" she said. Then, suddenly, she laughed. "Jim, none of the High-born are ever sick—least of all, the Emperor."

"There's something wrong with him," said Jim. "And it can't be much of a secret if it happens the way it happened in the arena after the bullfight. Did you see how he changed when he started to speak to me after the bull was dead?"

"Changed?" She literally stared at him. "Changed? In what way?"

Jim told her.

". . . You didn't see how he looked, or hear the sounds he made?" asked Jim. "Of course not—come to think of it, you probably weren't sitting that close."

"But, Jim!" She put her hand on his arm in that familiar, persuasive gesture of hers. "Every seat in the arena there has its own focusing equipment. Why, when you were fighting with that animal"—she shuddered, briefly, in passing; then hurried on—"I could see you as closely as I wanted . . . as if I were standing as close to you as I am now. When you turned toward the Imperial box I was still focused right on you. I saw the Emperor speak to you; and if he'd done anything out of the ordinary, I'd have noticed it, too!"

He stared at her.

"You didn't see what I saw?" he said, after a second.

She continued to meet his eyes in a pattern of honesty; but with a sudden sensitivity inside himself, he seemed to feel that within, she was

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somehow refusing to meet his eye —without being really aware of this, herself.

"No," she said. "I saw him speak to you; and heard him invite you to visit him after you'd had a chance to rest. That's all."

She continued to stand, gazing up into his eyes in that pattern of exterior honesty, with the inner aversion of her gaze unknown to her but evident to him. The seconds stretched out; and he suddenly realized that she was fixed. She was incapable of breaking the near-trance of this moment. He would have to be the one to interrupt it.

He turned his head away from her; and was just in time to see the gray-skinned, bald-headed figure of a Starkien appear in the room about five feet away from them.

Jim stiffened, staring at him.

"Who are you?" Jim demanded.

"My name is Adok I," responded the newcomer. "But I am you."

VI

Jim frowned sharply at the man; who, however, showed no reaction to his frown at all.

"You're me?" Jim echoed. "I don't understand."

"Why, Jim!" broke in Ro. "He's your substitute, of course. You can't actually be a Starkien, yourself. Any more than a—" she fumbled for a parallel; and gave it up. "Well, look at him. And look at yourself!" she finished.

"The High-born is quite right," said Adok I. He had a deep, flat, emotionless voice. "Award Commissions are usually given to those who are not Starkien by birth and training. In such cases a substitute is always provided."

"A substitute is, is he?" said Jim. "In that case, what do they call you officially in the records?"

"Officially, as I said, I'm you," answered Adok I. "Officially, my name is James Keil. I am a Wolfling from a world that calls itself" —the Starkien's tongue stumbled a little with the pronunciation of the unknown word—"Earth."

"I thought you told me that you were Adok I," Jim said. The extreme seriousness of the Starkien was tempting him to smile; but an instinct kept the smile hidden within him and off his face.

"Unofficially, to you Jim," said the other man, "I am Adok I. Your intimates, like the High-born lady here, may call me either Adok I or Jim Keil—it makes no difference."

"I'll call you Adok I," said Ro. "And you can call me Ro."

"I'll do that, Ro," said Adok I, in a tone of voice as if he were repeating an order he had just been given, and affirming his willingness and ability to execute it.

Jim shook his head, amused, and intrigued by the combination of characteristics the Starkien was exhibiting. The man seemed humorless to the point of woodenness, obedient to the point of servility,

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and in conjunction with these things, evidently considered it the best possible manners to address Jim by the familiar short form of Jim's first name. Moreover, beyond this, Adok I seemed to assume a strange mixture of superiority and inferiority towards Jim at the same time. Clearly, the Starkien did not for a moment appear to consider that Jim had the capabilities to perform the tasks that Adok I was himself fitted to perform. On the other hand, plainly he considered himself completely a creature of Jim's will—at Jim's beck and call. However, thought Jim abruptly, investigation of Adok's character could come later. There was a more immediate question.

"Well," Jim said, "now that I've got you, what am I supposed to do with you?"

"We should begin with my doing things with you, Jim," said Adok I. He looked over at Ro. "If Ro will excuse us, I should immediately begin instructing you in the necessities and duties of being a unit officer—over and above those in which I can substitute for you."

"I've got to get back to my pets, anyway," said Ro. "I'll come and find you later, Jim."

She touched him lightly on the arm and disappeared.

"All right, Adok," said Jim, turning back to the Starkien, "what do we do first?

"We should begin with a visit to the quarters of your unit," Adok said. "If you will allow me to show you the way, Jim—"

"Go ahead," said Jim; and immediately found himself with Adok in what seemed to be an enormous, windowless, high-ceilinged room. In spite of all that space, however, something within Jim felt the sensation of closeness, an oppression as of confinment.

"Where are we?" he asked Adok; for the polished floor stretching away from them was empty in all directions to large distances, except for a few distant-moving figures almost lost in the dimness and distance.

"We're at the parade ground—" Adok's head came around to gaze at Jim with the first faint sign of emotion the Starkien had yet shown. After a second Jim realized Adok was registering surprise. "We are also below ground—" Adok gave their depth in Empire terms which translated to something like half a mile down from the surface of the planet. "Does it disturb you? It disturbs the High-born; but only a few of the servants are disturbed by it."

"No, I'm not disturbed," Jim said. "I felt something, though."

"If you are disturbed, you should admit it to me," said Adok. "If you are ever afraid or disturbed, you should tell me, even if you tell no one else. No one else but I need to know. But it is necessary for me to know when you are emo-

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tionally weakened, so that I can take measures to protect you from such weakness and hide the fact from others."

Jim chuckled; and the sound echoed eerily away into the distances around them. It was an odd moment and place for humor; but Jim was finding Adok I strangely likable.

"Don't worry," he told the Starkien. "I don't usually feel emotionally weakened. But, if I ever do, I promise to let you know."

"Good," said Adok seriously. "Now, I brought you first to this point on the parade ground because one of the things I cannot do for you is stand certain parades with the unit. At some parades we both must be present. Now that you have been brought to this spot, you can instantly return to it on your own in case something may have made you a little late in showing up for the parade. Now, let's go to the armory; and we'll draw your weapons and accouterments while you memorize that destination, also."

The next room they appeared in, was more brightly lit and a very great deal smaller than the parade ground. It was a long narrow room, the long walls of which on both sides seemed to be divided into compartments holding the leather straps and the bands of silver stuff such as those which encircled the legs, arms and body of Adok, as well as those of the Starkiens in the room with the Emperor and Vhotan. Adok led Jim directly to several of the compartments, and collected an assortment of the straps and silver bands. He did not, however, suggest that Jim put them on at this time. Instead, Adok himself carried them, while he transported Jim in quick succession to the barracks, or living quarters of the Starkiens in Jim's unit—those were suites of rooms not unlike those that Jim himself had been given, except that they were smaller and in this below-ground location—a gymnasium, a dining hall, a sort of underground park, with grass and trees flourishing under an artificial sun, and finally to a sort of amusement and shopping center, where many Starkiens mingled with many times more their own number of other servants of the lesser races.

Finally, Adok concluded the quick shift about these various locations, by bringing Jim to what appeared to be a large room, fitted out somewhat like the room in which Jim had encountered the Emperor and Vhotan. Not only was it large and well furnished—but Jim instantly felt a lightening of the sensation within him that had warned him before that he was below ground. Apparently, this room, whatever it was, was above ground.

"Who—" he began to Adok; and then found his question answered

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before he could enunciate it. The olive-skinned man called Melness materialized in front of them; and looked—not at Jim—but at Adok.

"I have taken him around the places concerned with his unit," Adok said to the Master Servant of the Throne World, "and brought him here finally to you, as you asked, Melness."

"Good," said Melness, in his sharp tenor. His black eyes flicked to Jim's face. "The Sponsorship for your Adoption has been accepted by the Emperor."

"Thanks for telling me," said Jim.

"I'm not telling you for your benefit," said Melness, "but because it's necessary for me to make your situation clear to you. As a candidate for Adoption, you are in theory a probationary High-born, who is superior to me, as to all servants. On the other hand, as an officer of the Starkiens below the rank of a Ten-unit Commander, as well as because you were born among one of the lesser races of man, you are under my orders."

Jim nodded.

"I see," he said.

"I hope you do!" said Melness, sharply. "We have a contradiction; and the way such contradictions are resolved is to accord you with two official personalities. That is, any activity, occupation or duty which you deal with in your capacity as a candidate for Adoption invokes your personality as a probationary High-born, and my personal superior. On the other hand, any activity which deals with your duties as an officer of the Starkiens, invokes your servant personality; and you are my inferior in everything connected with that. In any activities that deal with neither personality officially, you can choose which position you want to occupy —High-born or servant. I don't imagine you'll want to choose the servant, often."

"I don't suppose so," said Jim, watching the smaller man calmly. The black eyes flickered and flashed upon him like dark flashes of lightning.

"Because of the conflict of personalities," said Melness, "I have no physical authority over you. But if necessary, I can suspend you from duty with your Starkien unit; and enter a formal complaint to the Emperor about you. Don't let yourself be misled by any foolish notion that the Emperor will not act upon any complaint I make to him."

"I won't," said Jim, softly. Melness looked at him for a moment more, then disappeared.

"Now, Jim," Adok said, at his elbow. "If you like, we can return to your quarters; and I will show you the use of your weapons and accouterments."

"Fine," said Jim.

They transported themselves back to Jim's quarters. There,

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Adok fitted Jim out with the straps and belts he had brought from the armory.

"There are two classes of weaponry," said Adok, once Jim was outfitted. "This—" he tapped the small black rod he had inserted in the loops of the belt attached to Jim's loin strap—"is independently powered; and is all that is normally used for duty upon the Throne World."

He paused; and then reached out softly to touch a silver band encircling the biceps of Jim's upper left arm.

"These, however," said Adok, "are part of the weaponry of the second class. They are completely useless at the moment, because they must be energized by a broadcast power source. Each of them is both a weapon and an enabler at the same time."

"Enabler?" Jim asked.

"Yes," said Adok. "They increase your reflex time, by causing you to react physically at a certain set speed—which in the case of any one not High-born is considerably above his natural speed of reflex. Later on, we'll be working out with the enabler function of the second-class weaponry. And eventually, perhaps you can get permission to go to the testing area, which is at a good distance below the surface of the Throne World, and gain some actual experience with the weapons themselves."

"I see," said Jim, examining the silver bands. "I take it, then, that they're fairly powerful?"

"A trained Starkien," said Adok, "under full control of effective second-class weaponry, should be the equivalent of two to six units of fully armed men from the Colony Worlds."

"The Colony Worlds don't have Starkiens of their own, then?" asked Jim.

For a second time, Adok managed to register a mildly visible emotion. This time, the emotion seemed to be shock.

"The Starkiens serve the Emperor—and only the Emperor!" he said.

"Oh?" said Jim. "On the ship that brought me to the Throne World, I had a talk with a High-born named Galyan. And Galyan had a Starkien—or somebody who looked exactly like a Starkien—bodyguarding him."

"There's nothing strange in that, Jim," said Adok. "The Emperor lends his Starkiens to the other High-born, as the other High-born need them. But they are only lent. They still remain servants of the Emperor; and in the final essential their commands come only from the Emperor."

Jim nodded. Adok's words rang an echo off the remembered words of Melness, a short time before. Jim's thoughts ran on ahead with the connection.

"The underground area on the Throne World is occupied only by

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the servants, is that right, Adok?" he asked.

"That's right, Jim," said Adok.

"As long as I'm going to be going down there as a matter of duty from now on," said Jim, "I think I'd like to see some more of it. How large an area is it?"

"There are as many rooms below ground," said Adok, "as there are above. In fact, there may be more; because I don't know them all."

"Who does?" asked Jim.

Adok looked for a second as though he would have shrugged. But the gesture was evidently too marked a one for him to make.

"I don't know, Jim," he said. "Perhaps . . . Melness."

"Yes," said Jim, thoughtfully. "Of course, if anyone would know, it would be Melness."

During the next few weeks, Jim found himself involved in several parades down on the parade grounds. He discovered that his duties on these occasions were nothing more than to get dressed, and to stand before his unit—which consisted of seventy-eight Starkiens, a non-commissioned Starkien officer, Adok and himself.

But the first parade he witnessed, it came as a shock to him to see that vast space underground completely filled with rank upon rank of the impassive, bald-headed, short and massively boned men who were the Starkiens. Jim had assumed that the Throne World was a full-sized planetary body, that there would be a large number of servants of all types, and that the Starkiens should be a fair proportion of these. But he had not realized, until he saw it with his own eyes, how many Starkiens there were. A little calculation afterwards based upon what Adok could tell him of the floor space of the parade ground area, led him to estimate that he must have seen at least twenty thousand men under arms in that space.

If it was indeed true, what Adok said, that each Starkien was the equivalent of four to five times a unit of eighty soldiers from the Colony Worlds, then what he had seen gathered there had been the equivalent of between half and three quarters of a million men. And Adok had told him that this parade ground was only one of fifty spaced about the Throne World, underground.

Perhaps it was not so surprising that the High-born of the Throne World considered themselves above any threat that could be posed by any Colony World, or combination of Colony Worlds.

Outside of the parades, Jim found that his only duties during the first few weeks consisted of a session in the gymnasium, every other day with Adok wearing the second-class weaponry.

The silver bands that represented the second-class weaponry were

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still not energized as weapons; but within the confines of the gymnasium they became active in their capacity as enablers. The exercises that Jim was put through by Adok, therefore, consisted merely of running, jumping and climbing over various obstacles with the enablers assisting. After the first session of this exercise, which Adok permitted to go on only for some twelve minutes, the Starkien took Jim almost tenderly back to his own quarters and had Jim lie down on the oversize hassock that did serve as a bed there, while Adok gently removed the class-two weaponry bands.

"Now," said Adok, "you must rest for at least three hours."

"Why?" Jim asked, curiously gazing up at the stocky figure, standing over him.

"Because the first effects of wearing the enablers is not appreciated by the body immediately," said Adok. "Remember your muscles have been forced to move faster than your nature intended them to. You may think that you feel stiff and sore now. But what you feel now is nothing to what you will feel in about three hours time. The best way of minimizing the stiffness and soreness when you first begin to use the enablers, is to remain as still as possible for the three hours immediately following exercise. As you become hardened to their use, your body will actually adapt to being pushed at faster than its normal speed of reflex. Eventually you won't become stiff unless you really overextend yourself; and you won't need to rest after each exercise."

Jim kept his face impassive; and Adok vanished; considerably dimming the lights of the room before he went. In the dimness Jim looked thoughtfully at the white ceiling overhead.

He felt no stiffness or soreness of his muscles whatsoever. But, as Adok had said, possibly the maximum effect would not be appreciated until about three hours from now. Conscientiously, therefore, he waited those three hours without moving from the bed.

But at the end of that time, he found no difference in himself. He was not sore; and he was not stiff. He filed that piece of information with the gradually accumulating store of knowledge about the Throne World and its inhabitants in the back of his mind.

It did not immediately fit with the other pieces of the jigsaw puzzle that was forming in his mind. But one of the things that had helped him from that day, when as a boy he had at last faced the fact that he had no choice but to bear the loneliness of his life in silence, was the capacity in him for an almost infinite patience. The picture forming in his mind was not yet readable. But it would be. Until then . . . Adok had assumed that at the end of three hours the stiffness and soreness of Jim's body

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would have effectively immobilized him. Since he had never been able to discover if he might be under surveillance—and to this, he had added lately the possibility of surveillance not only by High-born, for their own reasons; but also by servants, for *their* own reasons—he resigned himself to staying as he was.

Stretched out on his hassocklike bed, he willed himself to sleep.

When he woke up, it was because Ro was shaking him gently. She stood in the dimness of the room beside his bed.

"There's someone Galyan wants you to meet," she said. "He sent word through Afuan. It's the Governor of the Colony Worlds of Alpha Centauri."

He blinked at her for a moment, sleepily. Then wakefulness sprang upon him, as the implications of what she had said woke inside him.

"Why would I want to meet the Governor of the Worlds of Alpha Centauri?" he asked, sitting abruptly up on the hassock-bed.

"But he's *your* governor!" Ro said. "Didn't anyone ever tell you, Jim? Any new Colony World is first assigned to the nearest governor."

"No," said Jim, swinging his legs over the edge of the bed and getting to his feet. "No one ever did tell me. Does this mean I have some sort of obligation to this governor?"

"Well . . ." Ro hesitated. "In theory, he can take you away from the Throne World, right now, since you're under his authority. But, on the other hand, the Sponsorship for your Adoption has been entered. In practice, he would find this out; and would know better than try to do anything that might interfere with any possible future High-born. Remember—his worlds will gain a lot of prestige if anyone under their authority becomes at least a probationary High-born. In other words—he can't really do you any harm; but you can hardly, politely, turn down the chance to visit with him, now that he's here."

"I see," said Jim, grimly. "They sent you to bring me?"

Ro nodded. He reached out his hand; and she took it in one of hers. It was an easy, short-hand way of taking somebody else where they had never been before. It required a certain mental effort, Jim had been told, to transport someone to a place unknown to him, but known to his guide—without this physical contact. Adok, of course, as with Ro earlier, had done it the polite way. But now, Ro customarily reached out and took hold of him, when she wished to take him any place.

Immediately, they were in a relatively small room. A room, however, which in the number of writing surfaces standing flatly suspended in mid air, and the relative scarcity of sitting hassocks, bespoke

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the utilitarian kind of office-type of room that Galyan had brought Jim to aboard the ship.

Present in the room were the usual workers and the single Starkien bodyguard. Present also was Galyan, and with him a man with the American Indian-like coloring of the Alpha Centaurans. But this man was almost five ten, a good three or four inches taller than most of the Alpha Centaurans Jim had met when he had been on Alpha Centauri III.

"There you are, Jim—and you, too, Ro," said Galyan turning slowly to face them, as they appeared. "Jim, I thought you might like to meet your regional overlord —Wyk Ben of Alpha Centauri III. Wyk Ben, this is Jim Keil, Sponsorship of whom has been offered, here on the Throne World."

"Yeth," agreed Wyk Ben, turning quickly to face Jim, and smiling. In contrast to the hissing accent of the High-born, which had come to sound almost natural to Jim by this time, the Governor of Alpha Centauri lisped slightly in his speech.

"I just wanted to see you for a moment, Jim, to wish you luck. Here, your world's just come under our Governorship . . . and, well, I'm very proud!"

Wyk Ben smiled happily at Jim; apparently unaware that of the three other people concerned in the conversation, there was a slight frown of foreboding on the face of Ro, a touch of sardonic humor in the lemon-green eyes of Galyan, and that Jim himself was detached and reserved.

"Well . . . I just wanted to tell you. I won't take up any more of your time," said Wyk Ben, eagerly.

Jim stared down at him. He was absurdly like a puppy wagging its tail in eagerness and pride; coupled with a sort of innocence about the Throne World in general. Jim could not understand why Galyan should have wanted him to meet this man. But he filed the fact that Galyan *had* wanted him to meet the Alpha Centauran governor, for future reference.

"Thank you again," Jim said. "Yes, as a matter of fact I'm due for an exercise session with the Starkien who's my substitute." He looked over at Ro. "Ro?"

"Good to have seen you again, Jim," said Galyan slowly in a tone of voice almost matching the amused drawl of Slothiel. Clearly, whatever he had hoped to gain from bringing Jim and Wyk Ben face to face, he had gained. But there was no point in trying to pursue the matter here and now, any further. Jim turned to Ro and held out his hand. She took it; and immediately they were back in his room.

"What was all that about?" asked Jim.

Ro shook her head, puzzledly.

"I don't know," she said, not happily. "And when anything hap-

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pens on the Throne World that you don't understand, it's a danger signal. I'll try and find out, Jim—I'll see you later."

Hastily, she disappeared.

Left by himself, Jim ran over the meeting with Wyk Ben in his mind. It struck him that things were in danger of happening so fast that they might get ahead of him. He spoke out loud to the empty room.

"Adok!"

It took possibly three seconds—no more—and then the figure of the Starkien appeared before him.

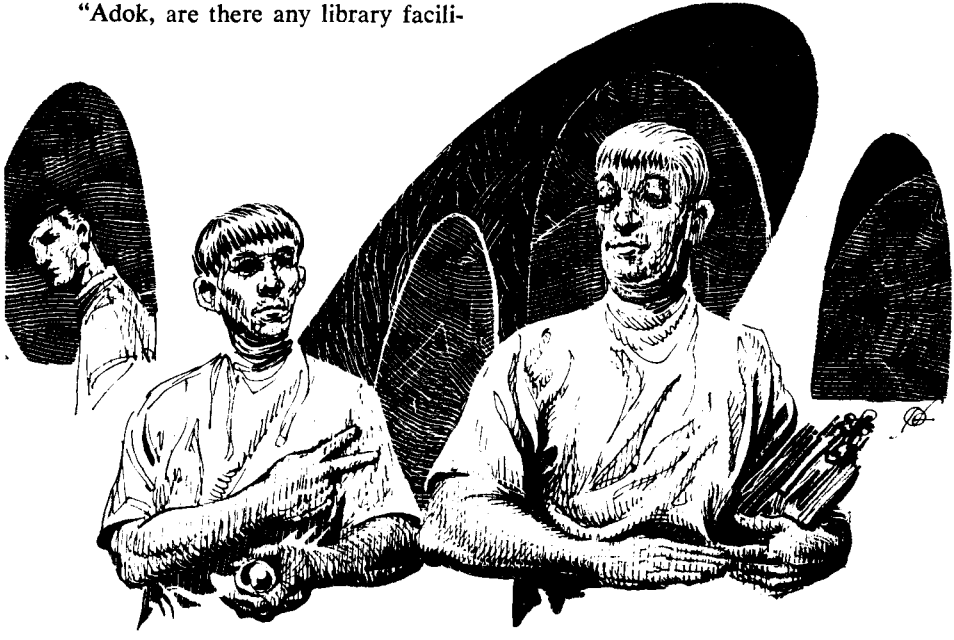
"How are you feeling?" asked Adok. "Do you need—"

"Nothing," said Jim brusquely. "Adok, are there any library facilities down in the servants area, underground?"

"Library . . . ? Oh, you mean a learning center. Yes, I'll take you to one, Jim. I've never been there myself; but I know about where it is."

Adok ventured to touch Jim on the arm; and they were in the underground park Jim had passed through with Adok before. Adok hesitated, then turned left and began to walk off toward a side street.

"This way, I think," he said. Jim followed him; and they left the park, going down the street until they came to a flight of what



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looked like wide stone steps leading up to a tall open portal in a wall of polished brown stone.

There were a few people coming and going through the portal, up and down the steps—all of them servants, rather than Starkiens. Jim watched these, as he had watched all the servants they had passed on the way here, with a close attention. Now, going up the steps, his concentration was rewarded. Coming out of the portal as he and Adok started up the steps, was a yellowish-skinned, black-eyed man like Melness. As he started down the steps, his eyes went to one of the servants entering—one of the short men, who had straight brown hair. The brown man ran the heel of his hand, in apparently an idle gesture across his waist just at belt level. In response, without breaking stride, the yellow-skinned man who looked like Melness reached casually across with his right hand to lay two fingers momentarily against the biceps of his left arm, before dropping the arm once more to his side.

Without another gesture—in fact without looking at each other after that, the two passed, going opposite ways on the steps.

"Did you see that?" Jim asked, in a low voice to Adok as they entered the portal. "Those gestures? What were they all about?"

For an unusually long moment, Adok did not answer—so that Jim turned to glance at him as they walked. Adok's face, insofar as Jim could read it, was serious.

"It's strange," said the Starkien, almost to himself. "There *has* been more of it lately."

He lifted his eyes to Jim.

"It's their Silent Language."

"What did they say, then?" asked Jim. Adok shook his head.

"I don't know," he answered. "It's an old language—the High-born first learned of it after the first Servant's Revolt, thousands of years ago. The servants have always used it. But we Starkiens are shut out from it. That's because we're always loyal to the Emperor."

"I see," said Jim. He became thoughtful.

They passed down a wide hallway of the same brown polished stone, and into a large, interior room which seemed to be filled with rank on rank of whirling, glowing globes of light—like small suns. They spun—if that indeed was what they were doing—too fast for the eye to follow their rotation. But they were obviously in constant movement.

Adok halted. He gestured at the miniature suns.

"This is one of the Files," he said. "Which one, I don't know; because they're designed to feed not to us here but to the learning centers for the young High-born above ground. But off to the right here there are carrels, where you

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can tap the information stored, not only here, but in Files all over the Throne World."

He led Jim off to the right and out of the room with the miniature suns into a long, narrow corridor with a series of open doorways running down its right side. Adok led him down the corridor, and into one of the doorways.

Within was a small room—the first unoccupied one they had passed—fitted with a chair and a sort of desk or table, with a raised surface, sloping upward at an angle of about forty-five degrees with the horizontal.

Jim sat down in front of the raised surface, which seemed perfectly blank except for a pair of small black studs, or buttons, near the bottom. Adok reached over and touched one of the buttons, however, and immediately the sloping surface resolved itself into a white screen with one word in the sort of shorthand figures, that was the Imperial language, glowing blackly in the center of it. The word was "ready."

"Speak to it," said Adok.

"I'd like to examine whatever records there are of Empire expeditions," said Jim, slowly to the screen, "with a view to finding any that went out past—" and he gave the Imperial name for Alpha Centauri.

The squiggles that stood for the Imperial word "ready" vanished from the screen. Its place was taken by a line of writing, moving from left to right at a slow pace.

Jim sat, reading. It appeared that the retrieval system of the File was not equipped to hunt down the information he wanted directly. It could only supply him with a vast quantity of information about past expeditions in general out in the direction in which Alpha Centauri lay from the Throne World. Apparently, Jim's task would require his searching all the relevant records of expeditions in that general direction, in order to find the one which had gone on to Earth—if indeed any expedition ever had. It was not a task to be done at one sitting, Jim saw. It would take hours—days; perhaps even weeks.

"Is there any way to speed this up?" he asked, looking up at Adok. Adok reached over to the second stud and turned it. The line of type moving across the screen began to move more rapidly. Adok's hand fell away; and Jim raised his own. He continued to increase the speed of the line until the stud stopped, evidently having reached its highest rate. Adok made a small sound, like a badly-stifled grunt of surprise.

"What?" demanded Jim, not lifting his eyes from the swiftly sliding line of information.

"You read," said Adok, "almost like a High-born."

Jim did not bother to answer that. He remained fixed before the screen, hardly conscious that time

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was sliding by until, with the ending of one set of records and the beginning of the next, there was a momentary interruption in which he became conscious of the fact that he was stiff from sitting without moving for so long.

He straightened up, shut off the machine for a moment, and looked about him. Abruptly, he saw Adok, still standing beside him. Evidently the Starkien had not moved, either.

"Have you been waiting there all this time?" asked Jim. "How long have I been reading?"

"Some little time," said Adok, without apparent emotion. He gave Jim a period in Empire time-units that was the equivalent of a little over four hours.

Jim shook his head and got to his feet. Then, remembering, he sat down before the screen again and turned it on. He asked for information on the Silent Language.

The screen responded—not with one Silent Language, but with *fifty-two of them. Apparently there* had been fifty-two recorded "Revolts" by the servants of the Throne World.

Jim made a mental note to look up these Revolts next time he was here. Apparently, after each Revolt the High-born had investigated and translated the secrets of the current Silent Language; but by the time the next Revolt took place some hundreds or thousands of years later, an entirely new language had grown up.

They were not so much languages, in fact, as sets of signals—like the signals passed back and forth between the pitcher and the catcher in a baseball game, or between the players in the game and the coaches on the sideline. Rubbing one's fingers together, or scratching one's chin, was clearly and visibly a signal—or a part of the current Silent Language. The question lay not in seeing the signal, but in interpreting it. The question was what it meant, this particular time.

Jim skimmed the information of the Silent Languages, shut off the machine and got to his feet. He and Adok left the Files and with Jim leading, they walked out of the place, down the steps and back into the community area near the park.

They strolled around about its streets, shops, and places of entertainment for nearly an hour, while Jim kept his eyes quietly alert for *any more signals in the current* Silent Language.

He saw many, none of which made sense according to any of the earlier fifty-two versions of the Language. Nonetheless, he carefully stored up in his memory each signal as he saw it, and the conditions under which it was used. After a short session of this, he left Adok and returned to his own room.

He had hardly been back five minutes, when Ro appeared, ac-

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companied by Slothiel. Jim made a mental note to ask Ro what kind of warning system alerted her that he was back in his quarters; and also how such a warning system could be screened out, or turned off.

But, as he rose to face the two of them, now, he mentally filed that thought also, at the sight of the faint worry on the face of Ro, and the look of rather grim humor on Slothiel's face.

"I take it something's happened?" Jim asked.

"You take it correctly," answered Slothiel. "Your Adoption is being approved and Galyan has just now suggested to me that I give a large party for you to celebrate. I didn't realize he was that much a friend of yours. Now, why do you suppose he'd do something like that?"

"If you give such a party," said Jim, "will the Emperor attend?"

"The Emperor and Vhotan," answered Slothiel. "Yes, almost certainly they'll both be there. Why?"

"Because," said Jim, "that's why Galyan suggested you give the party."

Slothiel frowned. It was a slightly haughty frown, with the faint implication that a member of the lesser races should not make statements to a High-born that a High-born could not fully understand.

"Why do you say that?"

"Because Melness is a very clever man," said Jim.

VII

Slothiel's tall body stiffened.

"All right, Wolfling!" he snapped. "We've had enough question-and-answer games!"

"Jim—"began Ro, warningly.

"I'm sorry," said Jim, looking steadily at the taller man. "The explanation doesn't concern me—it concerns the Emperor. So I'm not going to give it to you. And you're not going to force me to give it. In the first place, you can't. And in the second place it would be impolitic of you to try, since you're the one who's sponsoring me for Adoption."

Slothiel stood perfectly still.

"Believe me," said Jim, this time persuasively, "if I were free to answer you I would. Let me make you a promise. If, by the time the party is over, you haven't had an assurance either from the Emperor or from Vhotan that I had good reason not to tell you, then I'll answer any question you have about the whole thing. All right?"

For another second, Slothiel remained rigid, his eyes burning down at Jim. Then, abruptly, the tension leaked out of him, and he smiled his old, lazy smile.

"You know, you have me there, Jim," he drawled. "I can hardly forcibly question the very lesser human I'm sponsoring for Adop-

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tion, can I? Particularly since it would be impossible to keep the fact quiet. You'll make a good man at wagering for points, if by some freak chance you ever should happen to get Adopted, Jim. All right, keep your secret—for now."

He disappeared.

"Jim," said Ro, "I worry about you."

For some reason, the words rang with unusual importance in his mind. He looked at her sharply; and saw why they had. She was looking at him with concern—but it was a different sort of concern from that which she lavished on all her pets, and which she had heretofore lavished on him. And the tone of her voice had conveyed a difference to match.

He was suddenly, unexpectedly, and deeply touched. No one, man or woman, had worried about him for a very, very long time.

"Can't you at least tell *me* why you say Galyan's suggesting the party is because Melness is a very clever man?" Ro asked. "It sounds as if you're saying that there's some connection between Galyan and Melness. But that can't be, between a High-born and one of the lesser races."

"How about ourselves," said Jim; remembering that new note in her voice.

She blushed—but this, as he had come to learn, did not mean as much with her as it might have with another woman.

"I'm different!" she said. "But Galyan isn't. He's one of the highest of the High-born. Not just by birth—by attitude, too."

"But he's always made it a point to make a good deal of use of men of the lesser races."

"That's true . . ." she became thoughtful. Then she looked back up at him. "But you still haven't explained . . ."

"There's nothing much to explain," said Jim, "except for that part that I say is really a matter belonging to the Emperor, rather than to me. I said what I did about Melness being a clever man, because men can make mistakes out of their own cleverness, as well as out of foolishness. They can try too hard to cover something up. In Melness' case, when Adok first took me to meet him, Melness went to a great deal of trouble to make it look as if he resented my being placed under his responsibility."

Ro frowned.

"But why should he resent . . ."

"There could be a number of reasons, of course," said Jim. "For one—and the easiest answer—the fact that he resented a Wolfling like myself being sponsored for Adoption when a man like him stands no chance of such sponsorship—just because he is so useful in his capacity as a servant. But, by the same token, Melness should have been too clever to let me know that resentment; particularly

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when there was a possibility that I might end up as a High-born, myself, in a position to resent him in return."

"Then why did he do it?" asked Ro.

"Possibly because he thought I might be a spy sent by the High-born to investigate the world of servants," said Jim, "and he wanted to set up a reason for harassing or observing me while I was underground, that would not lead me to suspect that he suspected I was a spy."

"But what would you be spying on him for?" asked Ro.

"That, I don't know yet," said Jim.

"But you think it was something to do with the Emperor and with Galyan. Why?" Ro said.

Jim smiled down at her.

"You want to know too much too quickly," he said. "In fact, you want to know more than I know, yet. You see why I didn't want to get into questions and answers on this with Slothiel?"

Slowly, she nodded. Then she gazed at him with concern again.

"Jim—"she said, unexpectedly. "What did you do? I mean, besides bullfighting, when you were back on your own world among your own people?"

"I was an anthropologist," he told her. "Bullfighting was—a late avocation, with me."

She frowned, puzzledly. For to his knowledge, the word did not exist in the Empire tongue; and so he had simply translated it literally from the Latin root—"man-science."

"I studied the primitive background of man," said Jim. "Particularly the roots of culture—all cultures—in the basic nature of humankind."

He could almost see the lightning search she was making through that massive High-born memory of hers. Her face lit up.

"Oh, you mean—*anthropology!*" She gave him the Empire word he had needed. Then her face softened and she touched his arm. "Jim! Poor Jim—no wonder!"

Once again—as he so often found it necessary to do—he had to restrain the impulse to smile at her. He had thought of himself in many terms during his lifetime so far. But to date he had never had occasion to think of himself as "poor"—in any sense of the word.

"No wonder?" he echoed.

"I mean—no wonder you always seem so cold and distant to anyone High-born," she said. "Oh, I don't mean me! I mean the others. But, no wonder you're that way. Finding out about us and the Empire put an end to everything you'd studied, didn't it? You had to face the fact that you weren't evolved from the ape-men and pre-humans of your own world. It meant all the work you'd ever done had to be thrown out."

"Not exactly," said Jim.

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"Jim, let me tell you something," she said, "the same thing happened to us, you know. I mean us—the High-born. Some thousands of years ago the early High-born used to think that they were evolved from the pre-humans on this one Throne World. But finally they had to admit that not even that was true. The animal forms were too much the same on all the worlds like this one that our people settled. Finally, even we had to face the fact that all these worlds had evidently been stocked with the common ancestors of their present flora and fauna by some intelligent race that existed even long before our time. And the evidence is pretty overwhelming that the ancestors with which this world was stocked were probably a strain pointing toward a superior type of pre-men, than were planted elsewhere. So you see—we had to face thinking beings in the universe, too."

This time, Jim let himself smile.

"Don't worry," he told her. "Whatever shock there was to me on learning the Empire existed has evaporated by this time."

She was, he thought, reassured.

The party celebrating Slothiel's sponsorship of him for Adoption, it turned out, was to be held in just under three weeks. Jim spent the time learning Starkien ways and warfare from Adok, putting in the few nominal appearances that duty required of him with that military caste, and studying in the Files section to which Adok had introduced him underground.

In between times, he moved about the servants areas underground, observing any hand-signal that was made and committing it to memory. In his spare time, he tried to catalog and arrange these signals into some kind of coherent form that would allow him to begin to interpret them.

Two things were in his favor. In the first place, as an anthropologist, he was aware that any sign language derived from primitive, common basics, in human nature. As one of the early explorers had said about his experiences in that regard while living with the North American Eskimos—you did not need anyone to teach you the basic signs of communication. You already knew them. The threatening gesture, the come-here gesture, the I-am-hungry gestures, such as pointing to the mouth and then rubbing the stomach—all these, and a large handful more came instinctively to the mind of any man trying to communicate by hand or body movements.

In the second place, a language mainly of hand-signals was necessarily limited. The messages conveyed by such a language necessarily had to depend a great deal upon the context in which the gestures were made. Therefore, the same signal was bound to reappear

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frequently, before any observer watching over a period of time.

Jim, therefore, assumed success. And in fact, it was only a little more than two weeks before he identified the recognition signal—that hand movement that was equivalent to a greeting and a recognition signal between users of the Silent Language. It consisted of nothing more than the tapping of the right thumb-tip against the side of the adjacent forefinger. From that point on, the various signals began to reveal their meaning.

With his search in the Files to discover whether an expedition from the Throne World—or for that matter, from one of the then-existing Colony Worlds—had set out in the direction of the solar system containing Earth, was meeting with no similar success. Perhaps records of such an expedition were there in the Files. Perhaps they were not. The point was, the records that Jim himself had to examine to eliminate all the possibilities, were too multitudinous. The job was equivalent, in fact, to his reading through the entire contents of a small public library.

"And besides," said Adok when Jim finally one day mentioned this problem to the Starkien, "you have to remember that you could go all through the records you're permitted to see and still not know of such an expedition, even if record of it was there."

They had been strolling through the underground park. Jim stopped suddenly, and turned to face Adok; who, automatically, stopped also and turned to face Jim.

"What's this?" demanded Jim. "You said something about my being permitted to see only part of the records?"

"Forgive me, Jim," said Adok. "I don't know, of course, if any of the records of such trips are secret. But the point is, how can you be sure some are not? And further, how can you be sure that if some are secret, the one you're looking for is not among them?"

"I can't. Naturally," said Jim. "What bothers me is that I never stopped to think that any of the history of this planet might not be fully available." He thought for a second. "Who gets to see secret information in the Files, any way?"

"Why," answered Adok, with the faint note of surprise in his voice that was the ultimate in his reaction that way, "all the High-born see all the information, of course. In fact, since you are as free to move around above ground as below, all you need to do is to go to one of the Learning Centers for the High-born children—"

He broke off suddenly.

"No," he said, in a lower tone of voice. "I was forgetting. You can go to one of the Learning Centers, of course, but it won't do you any good."

"You mean the High-born won't

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let me use the Learning Center?" asked Jim. He was watching Adok closely. Nothing on the Throne World could be taken for granted, even the transparent honesty in someone like Adok. If Adok was going to tell him that there was some kind of a rule against Jim using the Learning Center it would be only the second outright prohibition he had encountered above ground on this singularly prohibitionless planet. The first, of course, being the rule against anyone approaching the Emperor without being directly summoned. But Adok was shaking his head.

"No," Adok said. "I don't think anyone would stop you. It's just that you wouldn't be able to use the reading machines above ground. You see—they're set for use by the young High-born and they read too fast for the ordinary men to follow."

"You've seen me read," said Jim. "They read faster than that?"

"Much faster," said Adok. He shook his head again. "Much, much faster."

"That's all right," said Jim. "Take me to one of these Learning Centers."

Adok did not shrug—in fact, it was a question whether his shoulders were not too heavily muscled for such a gesture, even if his nature permitted it. Instantly, they were above ground in a large structure like an enormous loggia—or rather, like one of the Grecian temples, consisting of roof and pillars and floor, but without any obvious outside walls. Through the nearby pillars green lawn and blue sky showed. About on the floor, scattered at intervals, seated or curled up on hassocks, were children obviously of the High-born, and of all ages. Each of them was gazing at a screen that floated at an angle in the air before them, and moved about to stay before them as they altered position on the hassock, always maintaining roughly the same forty-five degree reading angle Jim had found in the carrels of the Files below ground.

None of the children, even the few who paused to glance at Jim and Adok, paid more than a second's attention to the newcomers. Clearly, Jim decided, the fact that neither he nor Adok were High-born rendered them for practical purposes invisible, unless needed, by these High-born children.

Jim moved over to stand closely behind one of them—a boy as tall as Jim himself, though extremely thin of limb and with the face of a ten- or twelve-year-old. Before the boy, the same running line of symbols to which Jim had grown accustomed below ground, was running in front of the youngster. Jim looked at that line.

It was blurring by at a tremendous rate. Jim frowned, staring at it, trying to match his perception to its movement—to change it

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from a streak of spiky, wavy blackness to readable symbols.

Astonishingly, he could not.

He felt a sudden shock through him internally of something very like anger. He had never yet found anything that anyone else could do that he was not capable of matching within the limits of his own physical resources. Moreover, he was perfectly sure that the problem was not with his vision. His eyes should be as capable of resolving the blurred line into symbols as any High-born eye. The problem was in his brain, which was refusing to accept the readable information at the rate at which it was being offered.

He made a grim internal effort. Around him, glimpses of sunlight and lawn, pillars, ceiling, floor—even the boy himself, unheedingly reading, were blanked out. Jim's concentration focused down upon the line of reading—the line alone. The pressure of his efforts to resolve it was like a cord twisted tight around the temples of his head. Tighter, and tighter . . .

Almost, for a second, he made it. For a second it seemed as if the line was beginning to break apart into readable symbols; and he gathered that the text had something to do with the organization of the Starkiens themselves. Then his efforts broke—out of sheer physical inability of his body to sustain it any longer. He swayed a little, and vision of the rest of the universe, including pillars, walls and ceiling, opened out about him once more.

He was suddenly aware that the boy on the hassock had noticed him, finally. The High-born child had stopped reading and was staring at Jim, himself, with a plain expression of astonishment.

"Who are you—?"the boy began, in a reedy voice. But Jim, without answering, touched Adok on the arm and translated them both back to Jim's quarters before the question could be completed.

Back in the familiar room, Jim breathed deeply for a second, and then sat down on one of the hassocks. He motioned Adok to sit down likewise; and the Starkien obeyed. After a moment, Jim's deep breathing slowed, and he smiled slightly. He looked across at Adok.

"You don't say— 'I told you so!' " said Jim.

Adok shook his head, in a gesture that clearly conveyed that it was not his place to say such things.

"Well, you were right," said Jim. He became thoughtful. "But not for the reasons you think. What stopped me just then was the fact that I hadn't been born to this language of yours. If that writing had been in my own native tongue, I could've read it."

He turned his head abruptly away from Adok; and spoke to the empty air.

"Ro?" he asked.

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He and Adok both waited. But there was no answer, and Ro did not materialize. This was not surprising. Ro was a High-born, and had her own occupations and duties—unlike Adok, whose single duty was to wait, and wait upon, Jim's call.

Jim shifted himself to Ro's apartment, found it empty, and left a note asking for her to contact him as soon as she came in. It was about two and a half hours later that she suddenly appeared beside Adok and himself in the main room of Jim's quarters.

"It's going to be a big party," she said without preamble. "Everybody's going to be there. They'll have to use the Great Gathering Room. The word must've got out somehow that there's something special about this celebration—" she broke off suddenly. "I'm forgetting. You wanted to see me about something, Jim?"

"Oh," said Jim, "could you get one of those reading screens from the Learning Centers set up in your apartment?"

"Why—of course!" said Ro. "Do you want to use one, Jim? Why don't I just have one set up for you here?"

Jim shook his head.

"I'd rather not have it generally known that I was using it," Jim said. "I take it that it isn't too unusual a thing for someone like you to want one where she lives?"

"Not unusual. No . . ." said Ro. "And, of course, if you want it that way, that's the way I can do it. But what's this all about?"

Jim told her about his attempt to try and read at the same speed as that of the young High-born he had stood behind in the Learning Center.

"You think study will speed up your reading comprehension?" asked Ro. She frowned. "Maybe you shouldn't get your hopes too high—"

"I won't," said Jim.

Within a few hours the screen was set up, floating in a corner of one of the less-used rooms of Ro's apartment. From then on, Jim spent the time he had spent in the Files underground, in Ro's apartment instead.

He had made only slight progress, however, within the next week. He gave it up entirely and spent the last few days before the party lounging around the underground servants area with Adok, observing the Silent Language in use about him. He had become fluent in understanding it now; but, wearyingly, most of what he absorbed was the hand-signaled equivalent of gossip. Nonetheless, gossip could be useful if properly sifted and interpreted . . .

Jim returned from the last of these expeditions, just an hour or so before the party, to find Lorava waiting for him in the main room of his quarters.

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"Vhotan wants to see you," said Lorava, abruptly as Jim appeared.

No more notice than that, Jim found himself standing beside Lorava in a room he had not been in before. Adok was on the other side of him, so evidently the invitation had included the Starkien as well.

Vhotan, was seated on a hassock before a flat surface suspended in mid air with its top covered with what looked like several different studs of various shapes and colors. He was turning or depressing these studs in what appeared to be a random pattern; but with a seriousness and intensity that suggested his actions were far from unimportant. Nonetheless, he broke off at the sight of them, rose from his hassock and came over to face Jim.

"I'll call for you a little later, Lorava!" he said.

The thin, young High-born vanished.

"Wolfling," said Vhotan to Jim, his yellowish brows drawing together, "the Emperor is going to attend this party of yours."

"I don't believe it's my party," answered Jim. "I think it's Slothiel's party."

Vhotan brushed the objection aside with a short wave of one long hand.

"You're the reason for it," he said. "And you're the reason for the Emperor being at it. He wants to talk to you again."

"Naturally," said Jim, "I can come any time the Emperor wants to summon me. It needn't be at the party."

"He's at his best in public!" said Vhotan sharply. "Never mind that. The point is, at the party the Emperor will want to talk to you. He'll take you off to one side, and undoubtedly ask you a lot of questions."

Vhotan hesitated.

"I'll be glad to answer any of the Emperor's questions," said Jim.

"Yes . . . you do exactly that," said Vhotan, gruffly. "Whatever questions he asks you answer them fully. You understand? He's the Emperor, and even if he doesn't seem to be paying you complete attention I want you to go right on answering until he asks you another question or tells you to stop. Do you understand?"

"Fully," said Jim. His eyes met the lemon-yellow eyes of the older, High-born man.

"Yes. Well," said Vhotan, turning abruptly walking back to his console of studs and sitting down before it once again.

"That's all. You can go back to your quarters now."

His fingers began to move over the studs. Jim touched Adok on the arm and shifted back to the main room of his own apartment.

"What do you make of that?" he asked Adok, once they were back in Jim's own rooms.

"Make of it?" Adok repeated.

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"Yes," said Jim. He eyed the Starkien keenly. "Didn't you think that some of what he said was a little strange?"

Adok's face was completely without expression.

"Nothing dealing with the Emperor can be strange," he said. His voice was strangely remote. "The High-born Vhotan told you to answer fully the questions of the Emperor. That is all. There could not be any more than that."

"Yes," said Jim. "Adok, you've been lent to me to be my substitute. But you still belong to the Emperor, don't you?"

"As I told you, Jim," said Adok, still in the same expressionless remote voice. "All Starkiens always belong to the Emperor, no matter where they are."

"I remember," said Jim.

He turned away, and went to get out of the Starkien straps and belts he had been wearing, and into the white costume of all the male High-born, but without insignia, which he had chosen to wear for the occasion.

He was barely dressed, when Ro appeared. In fact, she materialized so suspiciously close upon the end of his dressing, that once more he wondered whether he was not under surveillance—by others as well as Ro—more than he thought. But he had no chance to speculate upon this now.

"Here—" she said, a little breathlessly, "put this on."

He saw she was holding out to him what seemed to be something like a narrow band of white satin. When he hesitated she picked up his left arm and wrapped it around his wrist, without waiting for his approval.

"Now," she said, "touch mine." She held up her own left wrist, around which was already wrapped —and clinging as if through some inner life of its own—a similar piece of clothlike material that she was wearing. Otherwise, she was clothed from shoulders to ankles in that same filmy, cloudlike stuff that he had seen Afuan and the other High-born women wearing at the bullfight on Alpha Centauri III.

She picked up Jim's wrist and touched his hand to hers.

"What's this?" asked Jim.

"Oh . . . of course you don't know," she said. "At a party, particularly a big one like this, people move around so much that you can't keep track of where someone is if you want to find them. But now that we've checked our sensors with each other, all you have to do is visualize me, and you'll automatically come to whatever part of the Great Gathering Room I'm in. You'll see—"she laughed a little. To his surprise, she was more than a little bright-eyed and excited. "Everything's always very mixed up on occasions like this!"

When they, with Adok, moved to the Great Gathering Room, forty minutes or so later, Jim im-

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mediately saw what she had meant. The Great Gathering Hall was a walless, pillared and roofed area like the Learning Center he had visited—only much larger. Clearly, its polished floor of utter black, upon which the white pillars seemed to float, was at least several square miles in area. On that floor groups of male and female High-born, in their usual white costume stood talking, while servants moved among them, carrying trays of various eatables and drinkables.

At first sight, except for the appearance of the High-born, and the size of it all, the gathering looked ordinary enough. But as he gazed, Jim became aware that not only High-born individuals themselves, but the servants, were appearing and disappearing continuously all over the place. For a moment, even to Jim, the size and movement of the crowd was slightly dizzying.

Then he did what he had always done when faced with a situation that threatened a temporary mental or emotional overload. He filed what he could not handle in the back of his mind, and concentrated on what he could.

"Adok," he said, turning to the Starkien, "I want you to circulate around. Try and locate for me a particular servant. I don't know what he'll look like, but he'll be a little different from all the rest, in that he will first, have a fixed position in the room some place; second, it will be a fairly secluded position, from which only one other servant in the hall at any time will be able to see him. He may be watched by any number of other servants in succession; but there will be never more than one watching him at a time; and he will always be under surveillance by the other servant observing him at the time. Will you get busy about that right away?"

"Yes, Jim," said Adok. He vanished.

"Why did you ask him to do that?" asked Ro, in a low, puzzled voice, pressing close to him.

"I'll tell you later," said Jim.

He saw by her attitude that she would like to ask him more questions, in spite of this answer of his. She might indeed have done so; but at that moment Vhotan and the Emperor appeared.

"There he is—my Wolfling!" said the Emperor cheerfully. "Come and talk to me, Wolfling!"

Instantly, with his words, Ro vanished. Also, all the other High-born nearby began to disappear, until Jim, Vhotan and the Emperor were surrounded by an open space perhaps fifty feet in diameter, within which they could talk in casual tones without anyone else being near enough to overhear. The Emperor turned his gaze on the older High-born.

"Go on," he said, "enjoy yourself for once, Vhotan. I'll be all right."

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Vhotan hesitated a moment, then winked out of sight.

The Emperor turned back to Jim.

"I like you . . . what is your name, Wolfling?" he asked.

"Jim, Oran," answered Jim.

"I like you Jim," the Emperor leaned down, stooping a little from his more than seven feet of height, and laid a long hand on Jim's shoulder, resting part of his weight on Jim like a tired man. Slowly, he began to pace idly up and down. Jim kept level with him, held by the shoulder.

"It's a wild world you come from, Jim?" Oran asked.

"Up until about half a century ago," said Jim. "Very wild."

They had gone perhaps half a dozen steps in one direction. The Emperor turned them about and they began to pace back again. All the while they talked they continued this movement—half a dozen paces one way, half a dozen paces back again, turn and return.

"You mean, in only fifty years you people tamed this world of yours?" asked the Emperor.

"No, Oran," said Jim. "We tamed the world sometime before that. It's just that fifty years ago we finally succeeded in taming ourselves."

Oran nodded, his gaze not on Jim, but fixed on the floor a little ahead of them as they moved.

"Yes, that's the human part of it. The self-taming is always the hardest," he said, almost as if to himself. "You know, my cousin Galyan, looking at you, would think immediately—what marvelous servants these people would make. And perhaps he's right. Perhaps he's right . . . but—" They turned about at the end of one of their short distances of pacing, and the Emperor for a moment looked from the floor up and over at Jim, with a friendly smile, "I don't think so. We've had too many servants."

The smile faded. For a moment they paced in silence.

"You have your own language?" murmured the Emperor in Jim's ear, once more gazing at the floor as they went. "Your own art and music and history and legend?"

"Yes, Oran," said Jim.

"Then you deserve better than to be servants. At least"—once more, the Emperor flashed one of his quick, brief, friendly smiles at Jim before returning his eyes to the floor ahead of them—"I know that you, at least, deserve better. You know, I shouldn't be surprised if some day I really do approve your Adoption, so that you become technically one of us."

Jim said nothing. After a second, and after they had completed another turn, the Emperor looked sideways at him.

"Would you like that, Jim?" Oran said.

"I don't know yet, Oran," said Jim.

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"An honest answer . . ." murmured the Emperor. "An honest answer . . . you know how they tell us, Jim, in probability, all events must sooner or later occur?"

"In probability?" Jim asked. But the Emperor went on as if he had not heard.

"Somewhere," said the Emperor, "there must be a probability in which you, Jim, were the Emperor, and all the people of your world were High-born. And I was a Wolfling, who was brought there to show off some barbaric skill to you and your court . . ."

The grip on Jim's shoulder had tightened. Glancing up and sideways, Jim saw that the Emperor's eyes had become abstract, and seemingly out of focus. Though he continued to push Jim forward with his grip on Jim's shoulder, it was now as if he were blind and letting Jim find the path for him, so that he followed Jim, instead of leading him, as he had at the beginning of their pacing.

"Have you ever heard of a Blue Beast, Jim?" he murmured.

"No, Oran," said Jim.

"No . . ." muttered the Emperor. "No, and neither have I. Also I looked through all our records of all the human legends on all the worlds—and nowhere was there a Blue Beast. If there never was such a thing as a Blue Beast, why should I see one, Jim?"

The grip on Jim's shoulder was like a vice, now. Still, the Emperor's voice was murmurous and soft; almost idle, as if he were daydreaming out loud. To any of the High-born watching from the edges of the circle surrounding them, it must look as if the two of them were in perfectly sensible, though low-voiced conversation.

"I don't know, Oran," answered Jim.

"Neither do I, Jim," said the Emperor. "That's what makes it so strange. Three times, I've seen it now; and always in a doorway ahead of me, as if it were barring my path. You know Jim . . . sometimes I'm just like all the rest of the High-born. There are other times in which my mind becomes very clear . . . and I see things, and understand them, much better than any of the ones around us. That's why I know you're different, Jim. When I first saw you after the bullfight, I was looking at you . . . and all of a sudden it was as if you were at the other end of the telescope—very small, but very sharp. And I saw many very small, very sharp details about you that none of the rest of us had seen. You can be a High-born or not, Jim. Just as you like. Because it doesn't matter . . . I saw that in you. It doesn't matter."

The Emperor's voice stopped. But he continued to urge Jim on, pacing blindly alongside him.

"That's the way it is with me, Jim . . ." he began again, after a moment. "Sometimes I see things

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small and clear. Then I realize that I'm half a step beyond the rest of the High-born. And it's strange—I'm what we've been working for down all these generations—that one step further on. But it's a step that we aren't built to take, Jim . . . do you understand me?"

"I think so, Oran," answered Jim.

"But at other times," went on the Emperor. Jim could not tell whether Oran had noted his answer or not. "But at other times things only start to get sharp and clear—and when I try to look more closely they go very fuzzy, and out of focus and large. And I lose that sense of extra, inner sharp sight that I had to begin with. Then I have bad dreams for a while—dreams, awake and asleep. It's in dreams like that, that I've seen the Blue Beast, three times now . . ."

The Emperor's voice trailed off again, and Jim thought that they had come merely to another temporary pause in the conversation. But abruptly, the Emperor's hand fell from his shoulder.

Jim stopped and turned. He found Oran looking down at him, smiling, clear-eyed and cheerful.

"Well, I mustn't keep you Jim," said Oran, in a thoroughly normal, conversational voice. "This will be your first party—and after all, you're practically the guest of honor. Why don't you circulate around and meet people? I've got to go find Vhotan. He worries too much when I'm away from him."

The Emperor vanished. Jim stood still, and the cleared circle of floor began to fill in around him, as those on the outskirts drifted inward, and new arrivals began to appear. He looked about for Ro, but could not see her.

"Adok!" he said in a low voice.

The Starkien appeared beside him.

"Forgive me, Jim," said Adok, "I didn't know that the Emperor was through talking to you. I found the servant you sent me to find."

"Take me where I can see him, but he can't see me," said Jim.

Abruptly, they were in a narrow, shadowy place between two pillars, looking toward a farther area where a cluster of close pillars enclosed a small open space, where a large number of trays loaded with food and drink stood neatly racked in the empty air, one above the other. Standing amidst these trays was a servant, one of the short brown men with the straight hair. Jim and Adok stood behind him; and, looking past him, they could see out to where another servant, was circulating within view with a tray of food.

"Good," said Jim.

He memorized the location, and shifted both himself and Adok back to where he had been standing when the Emperor had left him.

"Adok," he said softly, "I'm going to try to stay continuously

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within sight of the Emperor. I'd like you to stay within sight of me, but not exactly with me. Keep your eyes on me; and when I disappear, I want you to go to Vhotan, who'll be with the Emperor, and tell him I want him to be a witness to something. Then bring him to the place where that servant is. You understand?"

"Yes, Jim," said Adok, unemotionally.

"Now," said Jim. "How do I find the Emperor?"

"I can take you to him," said Adok. "All Starkiens can always find the Emperor, at any time. It's in case one of us is needed."

They were suddenly elsewhere in the Great Gathering Room. Jim looked about, and from a distance of a couple of dozen feet, saw the Emperor—this time without a circle of privacy around him, talking and laughing with several other High-born. Vhotan, his yellowish brows knitted, was at the younger man's elbow.

Jim looked around him again, and discovered Adok looking at him from perhaps twenty feet away. Jim nodded, and drifted off at an angle that would keep him moving through the crowd, but at about always the same distance from the Emperor.

Twice, the Emperor shifted position suddenly. Twice Jim found himself shifted by Adok to a new position within sight of the High-born ruler. Surprisingly, through all this, none of the High-born around Jim paid particular attention to him. They seemed to have no eagerness to see the Wolfling in whose honor the party was being given; and if their eyes rested on him unknowingly, they evidently took him for simply one more of the servants.

Time stretched out. Nearly an hour had gone by; and Jim was almost beginning to doubt his earlier certainties; when abruptly he saw what he had been waiting for.

At first glance, it was nothing much. The Emperor was half turned away from Jim; and all that betrayed his change in condition, was a slight stiffening of his tall figure. He had become somewhat immobile, somewhat rigid.

Jim hastily took two steps to the left so that he could catch sight of the man's face. Oran was staring through and past the other High-born man he had been talking to. His gaze was fixed, his smile was fixed; and as in the bull ring, there was a little trickle of moisture shining at the corner of his mouth.

None of those around him appeared to be in the least aware of this. But Jim wasted no time watching them. Instead, he turned to look about for servants. He had made less than a half turn before he saw the first man, a thin black-haired member of the lesser races, carrying a silver tray of what looked like small cakes.

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The man was not moving. He was stopped, still; as frozen in position as the Emperor.

Jim hastily completed his turn. He saw three more servants, all of them rigid, all of them unmoving as statues. Even as he looked, the High-born around them began to take notice of this strange lack of activity in their midst. But Jim did not wait to see how their reaction would develop. Instantly he transferred himself to the shadowy area behind the servant with the trays —to that place where Adok had earlier taken him.

The man with the trays was standing, looking. But he was not rigid—as was the servant who could be seen a couple of dozen yards beyond him, surrounded by High-born.

Jim bent nearly double, and ran forward swiftly and silently behind the trays until he came up with the servant who was looking out. At once, he caught the man from behind with both hands. One hand taking him at the top and back of the neck just under the overhang of the skull; the other hand caught hold of the left armpit from behind, with the thumb resting over a pressure point just to the left of the shoulder blade.

"Move—"whispered Jim, swiftly, "and I'll break your neck."

The man stiffened. But he made no sound; and he did not move.

"Now," whispered Jim again. "Do exactly as I tell you—"

He paused to glance around behind him. There, in the shadows, he saw the stocky form of Adok, and with Adok a towering High-born shape that would be Vhotan. Jim turned back to the servant.

"Put the two first fingers of your right hand across the biceps of your left arm," Jim whispered to the man.

The other did not move. Still keeping himself crouched low and hidden behind the servant's form, Jim pushed his thumb in again against the pressure point.

For a long moment the man resisted. Then, jerkily, almost like a robot, he moved his right hand up, up, and laid the two first fingers across the biceps of his left arm.

Outside, the immobile servant in sight suddenly began to move, as if nothing had happened, trailed by a small cloud of puzzled and interested High-born. Jim quickly clapped a hand over the mouth of the man he was holding, and half lifted, half dragged him back into the shadows.

Vhotan and Adok came forward to face the man.

"Now—" began Vhotan, grimly. But at that moment, the servant made an odd, small noise; and suddenly slumped, heavy in Jim's grasp.

"Yes," said Vhotan, as if Jim's laying the man down had been a comment in words, "whoever planned this wouldn't have taken

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any chances on leaving him alive for us to question. Even the brain structure will be destroyed, no doubt."

He raised his eyes and looked across the dead body to Jim. His High-born mind had plainly already deduced much of what Jim had brought him here to see. But Vhotan's eyes retained a bit of their chill, nonetheless.

"Do you know who's behind all this?" he asked Jim.

Jim shook his head.

"But you clearly expected it to happen," said Vhotan. "You expected it enough to send your Starkien to bring me here. Why me?"

"Because I decided you were the one man among the High-born who had to admit to yourself, consciously, that the Emperor's mind is not all it should be—or perhaps," said Jim, for a second remembering their talk, his and the Emperor's, as they walked up and down the polished floor, "his mind is a little too much more than it should be."

A faint click seemed to come from the throat of Vhotan. It was several long seconds before he said anything; and when he did speak it was on another topic.

"How did you find out about this . . . this, that the servants had planned?" Vhotan asked.

"I didn't find out, to the point where I was absolutely sure it would happen," said Jim. "But I taught myself the Silent Language of the servants underground, and learned that something was in the wind. Putting that together with this party, and the Emperor's known frailty, gave me an idea of what to look for. So when I got here I sent Adok around to look for it; and when he found it, I acted as you've just seen."

Vhotan had stiffened again at the coupling of the words "Emperor" and "frailty." But he relaxed as Jim finished talking; and nodded.

"You've done a good job, Wolfling," he said; and the words were plain enough even though the tone was grudging. "From this point on, I'll handle it. But we'd better get you off the Throne World for a while, sponsored for Adoption, or not sponsored for Adoption."

He stood and thought for a second.

"I think the Emperor will promote you," he said, finally. "As a rank more commensurate with your effective High-born status as someone sponsored for Adoption, he'll promote you to a Starkien Commander of Ten-units; and send you off on some military police-job, on one of the Colony Worlds."

He turned away from Jim, Adok and the dead servant, as if about to disappear. Then, apparently changing his mind, he swung back to look at Jim again.

"What's your name?" he said, sharply.

"Jim," answered Jim.

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"Jim. Well, you did a good job, Jim," said Vhotan, grimly. "The Emperor appreciates it. And—so do I."

With that, he did disappear.

VIII

The planet Athiya to which Jim was sent with his Ten-units of Starkien, Adok, and Harn II—who was the Ten-units' original commander, but now acting adjutant to Jim—was one of the many worlds populated by the small brown men with long, straight hair hanging down their back. The Governor, a burly little chestnut of a man, avoided all references to the uprising to be put down for which he needed Starkien help. He insisted that they go through a large and formal welcoming ceremony, during which he avoided all references to the uprising and any questions about it made to him by Jim.

However, explanations could not be put off forever. Jim, Harn II, Adok, and the Governor, all ended up at last in the Governor's private office of the capital city of Athiya. The Governor attempted to fuss around getting them hassocks and refreshments. Jim cut him short.

"Never mind that," said Jim. "We don't want food and drink. We want to know about this uprising—where is it, how many people are involved, and what kind of weapons have they?"

The Governor sat down on one of the hassocks and abruptly burst into tears.

For a moment, Jim was dumbfounded. Then knowledge that had its roots not in what he had learned on the Throne World as much as what he had learned back in his anthropological studies on Earth, reassured him with the obvious deduction that the Governor belonged to a culture in which it was not unusual for the males to cry—even as publicly and noisily as the Governor was doing now.

Jim waited, therefore, until the Governor had got rid of his first explosion of emotion; and then put his question again.

Sniffling, the Governor wiped tears from his eyes and tried to answer.

"I never thought they wouldn't send me a High-born in command of the Starkiens!" he said, thickly, to Jim. "I was going to throw myself on his mercy . . . but you're not a High-born—"

His tears threatened to flood his explanations once again. Jim spoke sharply to him, to bring him out of it.

"Stand up!" Jim snapped. Reflexively, the Governor obeyed. "As a matter of fact I've been sponsored for Adoption into the High-born. But that's beside the point. Whatever the Emperor sent you is what your situation deserves."

"But it isn't!" choked the Governor. "I . . . I lied. It isn't just

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an uprising. It's a revolution. All the other families on the planet have joined together—even my cousin Cluth is with them. In fact, he's the head of it all. They've all banded together to kill me and put Cluth here in my place!"

"What's this?" demanded Jim. He was aware that the Colony Worlds of the Empire had their miniature courts, modeled on the Throne Worlds. These courts consisted of the noble families of the Colony World, headed up by the family and person of the Governor, who was a small Emperor locally, in his own right.

"Why did you let it get this far?" put in Harn II. "Why didn't you use your colonial troops earlier to put it down?"

"I . . . I—" the Governor wrung his hands, obviously incapable of speech.

Watching him, Jim had no doubt what had happened. His studies of the past few weeks, both underground and at the Learning Center screen in Ro's apartment had given him a good insight not merely into Throne World society, but into the society of these Colony Worlds. Undoubtedly, the Governor had let things get this far out of hand because he had been confident of his own ability, until recently, to bargain with the dissident elements of his world. Evidently, he had underrated his opposition.

Then, having let things get out of hand, he had been afraid to admit the fact to the Throne World, and had put in a request for much less in the way of Starkien troops than he needed to control the situation. Possibly imagining he could use the Starkiens coming as a threat and still make a deal with the rebels.

However, understanding this was no help now. The Throne World was committed to backing up the Governors who were allowed to hold power on the Colony Worlds.

"Sir," said Harn II, tapping Jim on the elbow. He beckoned to Jim and they walked aside where they could talk privately at the far end of the room. Adok followed them, leaving the Governor standing, a lonely little brown figure surrounded by hassocks and floating table-surfaces.

"Sir," said Harn II, in a low voice once they had stopped at the far end of the room, "I strongly suggest that we stay put here, and send a message back to the Throne World for additional Starkiens. If half what that man there says is true, those who are against him will already have control of most of the colonial armed forces. A Ten-units of Starkiens can do a lot; but they can't be expected to defeat armies. There's no reason we should lose men just because of *his* blunder."

"No," said Jim. "Of course not. On the other hand, I think I'd like to look into the situation a little further and see for ourselves what

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we're up against, before shouting for help. So far the only account of things is what we've got from the Governor. Things may be a great deal different than he thinks, even if everything he's afraid of is true."

"Sir," said Harn II, "I have to protest. Every Starkien is an expensive and valuable man, in terms of his training and equipment. They shouldn't be risked in a hopeless cause; and as their former commander I have to tell you I think it isn't fair to them to risk them that way."

"Sir," said Adok—since they had left the Throne World, Adok also had been addressing him with military respectfulness— "the Adjutant-Commander is right."

Jim looked at both of the Starkiens in turn. They were subtly reminding him of the fact that while Jim was in nominal command of the expedition, the only one with real experience as a commander of Starkien Ten-units in that room was Harn, himself.

"I appreciate your objections, Adjutant," said Jim slowly to Harn II, now. "But I'd still like to look the situation over."

"Yes, sir," said Harn II. There was not the slightest flicker of emotion visible in him at being overruled. How much of this was normal Starkien self-control, and how much of it was Harn's own resignation to the situation was something Jim could not tell. But Jim turned now and led the way back across the room to the Governor; who looked up hopelessly as they came to him.

"There are a good many things I want to know," said Jim. "But you can start out by telling me what it was your cousin—or whoever it was who's behind this insurrection—used in order to get the others to join him."

The Governor started to wring his hands and cloud up toward tears again, but on meeting Jim's eye evidently thought better of it.

"I don't know . . . I don't know!" he said. "There was some talk about their having protection. Protection . . ." he trailed off timorously.

"Go on," said Jim. "Finish what you were going to say."

"Protection . . . from someone on the Throne World—" said the Governor, fearfully.

"Protection by one of the High-born?" demanded Jim, bluntly.

"I . . . I never exactly heard them say so!" chattered the Governor paling. "I didn't ever really hear that said in so many words!"

"Don't worry about it," said Jim. "Now, listen to me. Your cousin and his allies undoubtedly have armed forces. Where are they, and how many of them are there?"

With the topic off the High-born and back on his own people, the Governor revived like a wilted flower. His burly little shoulders

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twitched, and his voice deepened, as he turned and pointed off through the walls of his office.

"North of here." He gave a distance in Imperial units that amounted to something under sixty miles. "They're camped on a plain with a ring of hills around it. They've got sentry posts up on the hill—and the posts are manned by the best men in our colonial armed forces."

"How many of those are with them?"

"Three . . . three—" the Governor stuttered with new apprehension, ". . . three quarters, maybe."

"More like ninety-eight percent of them, sir," put in Harn II, gazing at the Governor, "if he estimates them as high as three-quarters."

"Why haven't they moved into your capital cities here before now?" asked Jim.

"I . . . I told them you were coming," said the Governor, miserably. "In fact I . . . offered to send you away, if they'd make terms."

"The only terms to be made," said Harn II, to the little man, "will be by us. How many men does ninety-eight percent of your colonial armed forces amount to?"

"Three divisions," stammered the Governor, "about forty thousand trained and armed men—"

"Sixty to seventy thousand," amended Harn II, looking at Jim.

"Very well," Jim said. He looked out a long, low window in one side of the office. "It's almost sunset locally. Do you have a moon?" he added, turning to the Governor.

"Two of them—" the Governor was beginning, when Jim cut him short.

"One would be enough, if it gives us enough moonlight," he said. He turned to Harn and Adok. "As soon as it's dark we'll go up and have a look at that camp of theirs."

He looked back at the Governor, who bobbed his head, smiling.

"And we'll take you with us," said Jim.

The Governor's smile vanished as suddenly as the smile of a cartoon figure, wiped from the drawing by the cartoonist's eraser.

Four hours later, with the earlier of the two moons, just beginning to show a small, orange rim over the low hills of the horizon surrounding the capital city, Jim with Harn and Adok up front and the Governor in the rear of a small, completely enclosed combat reconnaissance craft, lifted out of the capital city, rose into the darkness of the night sky, just below the black belly of some overhanging clouds, and slid silently northward in the direction the Governor indicated. Some fifteen minutes later they descended close to the ground and approached the hills ringing

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the plain they sought, with the underside of the reconnaissance vessel brushing the heads of the three-foot tall grass, as it dodged in and out of clumps of elmlike trees.

When the terrain began to tilt upward toward the encircling hills, themselves, they hid the reconnaissance vessel in a clump of bush and young trees, and continued the rest of the way on foot. The two Starkiens, together went first, spread out about fifteen yards apart. They moved with an amazing silence which Jim was only able to match because of his hunting experience back on Earth. But most surprising of them all was the little Governor, who turned out to be quite at home stealing quietly through the patches of alternate moonlight and shadow. Once he was sure the small man could keep up and would make no noise, Jim spread out from him to approximately the same distance existing between Adok and Harn.

They were nearly to the top of the slope that would at last allow them to overlook the plain beyond, when the two Starkiens dropped suddenly out of sight on their stomachs in the grass. Jim and the Governor immediately did the same.

Some minutes went by. Then Adok suddenly rose from the grass immediately before Jim.

"It's all right, sir. Come on. You can walk the rest of the way," he said. "The sentry was asleep."

Jim and the Governor got to their feet and followed the Starkien up the slope and into a little enclosure perhaps a dozen feet across, fenced in with what looked like a silver wire mesh perhaps a yard high. In the center of the enclosure was an instrument resembling a beach umbrella with the fabric removed from the ribs supporting it. The sentry Adok had mentioned was nowhere in sight.

"There's the camp," said Harn, pointing over the far rim of the wire mesh and down a farther slope. "It's all right. You can sneak up inside the fence, sir. We can't be seen or heard, now."

Jim walked over to stand beside Harn and look down. What he saw looked not so much like an armed camp as a circular small town or city of dome-shaped buildings divided by streets into pie-shaped sections.

"Come here," he said, looking back at the Governor. The Governor came obediently up to the wire mesh. "Look down there. Tell me, do you see anything unusual about that camp down there?"

The Governor gazed and finally shook his head.

"Sir," said Harn, "the camp is laid out according to one of the customary military patterns with different groups or units in each section, and a guard of men from each section to complete the perimeter circuit."

"Except they've set up a council

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building!" said the Governor, self-pityingly. "Look at that!"

"Where?" asked Jim.

The Governor pointed out a larger dome-shaped building just to the right of the geometric center of the camp.

"Only a Governor is supposed to call a council among the troops!" he said. "But they've been going ahead, anyway. As if I were deposed, already—or even dead!" He sniffled.

"What are you suspicious of, sir?" asked Harn. Adok had moved up close behind them. Jim could now see him out of the corner of his eye.

"I'm not exactly sure," said Jim. "Adjutant, what kind of weapons do our Starkiens have that these colonial soldiers wouldn't have?"

"We have vastly better individual defensive screens," answered Harn. "Also, each of our men represents fire power equal to that of one of their heavy companies."

"Then it's just a case of having the same sort of weapons, only better ones?" said Jim. "Is that it?"

"Sir," answered Harn. "The greatest weapon of the Starkiens is the trained individual Starkien himself. He—"

"Yes, I know that," interrupted Jim, a little sharply. "What about" —he fumbled in his mind for means of translating the Earth terms there into the Empire language— "about large fixed weapons? Unusually powerful explosives—nuclear fusion or fission weapons?"

"These colonials aren't allowed the technological machinery to make large fixed weapons," said Harn. "It's possible that they might secretly have built some sort of fission device—but unlikely. As for any antimatter weapon, that's completely impossible—"

"Just a minute," Jim interrupted him. "Do the Starkiens have all these things available back on the Throne World? The . . . what was it you called it? Antimatter devices?"

"Of course. But they haven't been required for use off the Throne World for some thousands of years," said Harn. "Are you aware of what an antimatter device is, sir?"

"Only," said Jim, grimly, "to the extent of knowing that a little bit of antimatter coming in contact with a little bit of matter can cause a good deal of destruction."

He stood, for a second without saying anything. Then he spoke abruptly.

"Well, Adjutant," he said to Harn, "now that you've seen how things look down there, do you still want to send back to the Throne World for help?"

"No, sir," answered Harn promptly. "If the sentry we surprised in their post is at all representative, their armed forces are incredibly poor. Also, their camp

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seems set up more for the convenience of those dwelling in it, than with any eye to overall defense. The pattern is there, but there are no street patrols, no perimeter patrols that I can see, and —most amazing—no overhead warning system whatsoever. Those people down there are just going through the motions of being an army."

Harn stopped, as if giving Jim a chance to comment.

"Go on, Adjutant," said Jim.

"Sir," acknowledged Harn. "What with what I've mentioned, the fact that we've just now discovered that their leaders are all concentrated in that one building, makes the military solution to this situation extremely simple. I'd suggest we send Adok back for the rest of the men right now; and as soon as they get here we mount a raid on that one building, coming down on it from directly overhead, so as to avoid triggering their perimeter defenses; and either kill or capture the ringleaders. Then they can be returned to the capital city for trial."

"And what," asked Jim, "if the rumor the Governor heard was correct—that these rebels have a friend among the High-born on the Throne World?"

"Sir?" said Harn. Insofar as a Starkien could, he sounded puzzled. "It's impossible, of course, for a High-born to have any dealings with colonial revolutionists like those down there. But even assuming that they down there had such a friend, there's nothing he could do to stop us. And, moreover, we Starkiens are responsible only to the Emperor."

"Yes," said Jim. "All the same, Adjutant, I'm not going to follow your advice here; any more than I followed it when you suggested earlier that we send back to the Throne World for reinforcements."

He turned away from Harn to confront the little Governor.

"Your noble families are always fighting each other, aren't they?" he asked.

"Why . . . they're nearly always intriguing against me, all of them!" said the little Governor. Then, he giggled, unexpectedly. "Oh, I see what you mean, Commander. Yes, they do fight among themselves a lot. In fact, if they didn't I might have some trouble handling them. Oh yes, their main sport is intriguing and accusing each other of everything you can think of."

"Naturally," said Jim, half to himself, "they're *noyaux*."

"Sir?" said Harn, beside him. The little Governor was also looking puzzled. The scientific term in the language of Earth meant nothing to them.

"Never mind," said Jim. He went on to the Governor. "Would there be any among the leaders down there that your cousin generally doesn't get along with?"

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"Someone who Cluth doesn't—" the little Governor interrupted himself thoughtfully. He stood, a second, gazing thoughtfully at the moonlit grass at his feet. "Notral! . . . yes, if there's anyone he isn't likely to get along with, it would be Notral."

He turned and pointed down at the encampment.

"See?" he said, "Cluth's people will be in that slice there of the encampment. And Notral's will be way over there, almost directly opposite. The farther they are away from each other usually, the better they like it!"

"Adjutant. Adok," said Jim, turning to the two Starkiens. "I've got a special job for you. Do you suppose that you could go down there quietly and bring back to me, alive and in good shape, a perimeter guard from the section just outside Notral's area of the encampment?"

"Of course, sir," answered Harn.

"Fine," said Jim. "Be sure to blindfold him when you take him from the perimeter. And you'll have to blindfold him again when you take him back. Now"—he turned to the Governor—"point out Notral's area of the encampment again."

The Governor did so. The two Starkiens let themselves out of the sentry post; and effectually disappeared—as effectually as if they had translated themselves from there to some other spot, in the fashion of the Throne World. It was a little over half an hour, by earthly standards, before they returned, and Jim saw the section of the mesh fence of the sentry post swing open. He had been sitting on the ground, crosslegged, with his feet, and the Governor scrambled up, as ordered, to stand alongside him, his extreme shortness emphasizing Jim's six feet four.

Adok crawled in to the sentry post and stood up, to be followed a second later by a small, brown youngster in a straplike harness somewhat like that of the Starkiens. The young colonial soldier was so frightened that he shook visibly. Harn followed closely behind him, and shut the mesh gate once he was inside.

"Bring him here," said Jim, imitating the breathy, hissing accents of the Throne World High-born. He was standing so that his back was to the rising moon, which had finally been joined by its smaller partner of the skies. Their combined light flooded over his shoulder and showed him clearly the face of the small long-haired soldier; but left his own face in the darkness of deep shadow.

"Do you know who it is I have chosen to be your final leader?" Jim asked, in hard, deep-voiced tone, when the young soldier was almost literally carried by the two Starkiens to stand before him.

The colonial soldier's teeth chat-

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tered so badly he could not make a coherent answer. But he shook his head violently. Jim made a short sound of anger and contempt, deep in his throat.

"Never mind," he said, harshly. "You know who controls the area behind your section of the perimeter?"

"Yes . . ." the young soldier nodded his head eagerly.

"Go to him," said Jim. "Tell him I've changed my plans. He's to take over command of your people now, without waiting."

The young soldier trembled, but said nothing.

"Do you understand me?" Jim shot at him.

The prisoner went into a violent convulsion of nodding.

"Good," said Jim. "Adok, take him outside. I want a word with my adjutant before you go."

Adok shepherded the prisoner out beyond the mesh fence. Jim turned and beckoned both Harn and the Governor to him. He pointed down at the camp.

"Now," he said, to the Governor. "Point out to the adjutant the part of the perimeter lying outside the area that your cousin Cluth will be occupying."

The Governor shrank a little from Jim, apparently infected by the fear of the prisoner, and stretched out a trembling forefinger to indicate to Harn the section Jim had mentioned. Harn asked a few questions to make certain of the location, and then turned to Jim.

"You want me to take the prisoner back there?" he asked Jim.

"That's right, Adjutant," said Jim.

"Yes, sir," said Harn, and went out through the mesh fence.

This time the trip took them nearer an hour of earthly time. The moment they returned, with word that they had set the prisoner to walking forward and heard him challenged and picked up by the soldiers of Cluth's perimeter, Jim ordered them all out of the sentry post and back down the slope toward their vessel.

They went swiftly, at Jim's orders. It was not until they were fully airborne that Jim relaxed. Then he ordered Adok, who was at the controls, to take the ship up and out to the farthest possible distance from which their night-vision screens could keep view on the camp. Adok obeyed. Some six or eight minutes later they settled into a circling patrol some fifteen thousand feet up and ten miles ground distance from the camp. As silently as a cloud itself, the reconnaissance vessel swung, like a huge toy at the end of an invisible string better than ten miles long, about the drowsy armed camp below.

Jim sat, unmoving, gazing at the night-vision screen in the control area beyond Adok, up in the front

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of the ship. With him sat Harn, the Governor and, for that matter, necessarily Adok, himself—all gazing at the screen; with the exception of Jim, with no idea of what they were watching for.

For quite a while it seemed that their watch would produce nothing out of the ordinary. Reaching out, Jim worked the telescopic controls of the night screen, from time to time, zooming in for a view of the streets and buildings. The night patrols were going their rounds without incident. Most of the buildings were dark. And so it continued.

Then, without warning, there was a little wink of light, hardly brighter than the blink of a flashlight in what seemed the center of the Governor's council quarters building.

"I think that's—" Jim was beginning, when Harn threw himself past him, literally tore the control out of Adok's hands, and sent the small craft twisting away, fleeing at top speed from the scene they had just been watching.

Adok, trained soldier that he was, did not fight his superior officer except for a first instinctive grab at the controls as they were taken from him. He slipped out of the control seat and let Harn take his place.

Jim leaned forward and spoke in Harn's ear.

"Antimatter?" Jim asked.

Harn nodded. A moment later the shock-wave hit; and the little vessel went tumbling end over end through the night sky, like some insignificant insect swatted by the paw of some monster.

Harn, clinging to the controls, finally got the ship back on an even keel. Within, all were battered to a certain extent. The little Governor was only half conscious, and his nose was bleeding. Jim helped Adok to prop the little man up on his feet and buckle his seat harness around him. Ironically, not one of them had had harness buckled at the moment they had been struck by the shock wave.

"Is there any point in our going back?" Jim asked Harn. The adjutant shook his head. "There'll be nothing to see," he said. "Only a crater."

"How much antimatter would you judge was involved in that?" Jim asked.

Harn shook his head.

"I'm no expert in amounts, sir," he said. "The total *unit* is about as big as you can hold comfortably in one hand. But that's for convenience. The effective element inside it may be no larger than a grain of sand, for all I know. Sir?"

"Yes?" said Jim.

"If I may ask, sir," said Harn, evenly. "What made you believe that there was antimatter down in that camp?"

"It was a guess, Adjutant," said Jim, somberly. "Based on a lot of factors—here and back on the Throne World."

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"It was a trap, then," said Harn, without perceptible emotion in his voice. "A trap for me and—I beg your pardon, sir—your Starkiens. We were meant to go in through the door they left open—that unguarded direct descent upon the main building. The whole Ten-unit would have been wiped out."

He was silent.

"But, sir," said Adok looking first at him, then turning to Jim, "these colonials must've known that they'd be wiped out, too?"

"What makes you think they'd know, Starkien?" asked Harn. "There was no reason to believe that whoever supplied them with that antimatter should have wanted them to know what they were handling."

Adok subsided. After a few moments, Harn spoke again to Jim.

"Sir?" he said. "Could I ask the commander what *noyaux* are?"

"Social groups, Adjutant," said Jim. "Family groups whose chief occupation is badgering, insulting and struggling with other family groups in every way short of actual fighting."

"These"— Harn glanced at the Governor, "form *noyaux?"*

"Their chief families do," said Jim. "Ordinarily their bickering just gives them something to do, because subconsciously they don't intend to harm each other no matter how much they may believe consciously that they're ready to fight at the drop of a hat. But the point is, the *noyaux* never trust each other. When that soldier of Notral's perimeter guard was brought in and questioned, Cluth leaped at the conclusion that he had been betrayed by whoever from the Throne World gave him the antimatter. He made an effort to take it back from wherever it was being guarded and some accident set it off. I hadn't hoped for that, so much as for a splitting up of the encampment, which would give us a chance to swoop down on Cluth's party and take the antimatter back from him."

"I see, sir," said Harn. He said nothing for a second. "And now, sir?"

"Now, said Jim, grimly, "we head back to the Throne World, as quickly as possible."

"Sir!" acknowledged Harn.

He said no more after that; and both Jim and Adok sat without speaking. In the little vessel there was silence; until the Governor, recovering full consciousness, began to mourn his dead cousin, with mutterings of Cluth's name, and stiffled, low-voiced sobs.

To be concluded

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A CHAIR OF COMPARATIVE LEISURE

The greatest of all problems in education is the simple fact that you can NOT teach someone who is not interested in the subject.

ROBIN SCOTT

Illustrated by Leo Summers

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Like everyone else in the Higher Education Racket—as I call college teaching, but only in conversation with my wife—I've turned into a pretty good fund raiser. I am not yet on a par with our Resident Grantsman, Professor Hodgins in Psychology, but I have had my share of success in drumming up Federal money for this project or that, dreaming up fancy research jobs and selling them to one foundation or another, anything to make jobs for graduate students and summer occupation for my departmental staff.

But the letter I held before me promised nothing but instant headache. It was the announcement—by the lawyers of one Amos T. Breckenridge, BA, Brooks State University, '09, that he had endowed a Chair in the History Department "to be filled by that professor who most consistently demonstrated excellence in teaching."

Now sad as it may seem, excellence in teaching is not the name of the academic game, not at a major brain-factory like BSU. Scholarship and publication is. And, if you can't cut it as a scholar, you had better be a damn fine administrator. Those are the only two possibilities. That is why I am Chairman of the History Department at BSU, and that is why I had the headache from Amos T. Breckenridge's lawyers' letter.

The Chair paid thirty-five thousand dollars a year—more than the President of the university earned—and guaranteed its possessor "permanent tenure unless the University Administration shall show cause for dismissal." In other words, a soft ride for life, unless the lucky person who got the Chair was caught with a coed or came to work too drunk to teach.

It was too good. It would make enemies of everyone in the Department. Everyone, that is, except for the lucky man who got the plum.

"Oh, me," I groaned to myself, "how do I pick the lucky guy? Once I pick him, how do I convince the rest of the Department that he deserves it? How do I convince the Dean and the President, and"—I fumbled for the letter—"Amos T. Breckendridge, BSU '09?"

I stopped my silent groaning. One reason I am a pretty good administrator is that I long ago learned that silent groaning does no good. Sometimes groaning out loud—in staff meetings and during budgetary hassles with the Dean—does some good, but self-pitying, silent, noncommunicative groaning is pointless. That's why I haven't any ulcers after fifteen years of running one of the biggest History Departments in the country.

I called for, and my secretary brought, two important starting points: the machine-run on student scores on the departmental end-of-the-semester examinations, and

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the May issue of the student humor magazine *Shafted* with its year-end ratings of BSU professors.

First *Shafted*. Under "History" I found "Most popular: Professor Blested: Most worthwhile course: Professor Eaton." Blested I knew; he was popular because he made light assignments, never gave a grade below a "C," and had a remarkable store of dirty anecdotes, just that proper shade of the risqué for the classroom.

Eaton was a relatively new man. A Penn State PhD, married, a couple of kids, a specialist in the History of Discovery. I thought about Eaton for a moment; he was one of those new staff members I had meant to get to know better but hadn't gotten around to yet. I felt guilty when I realized how little I knew of him. But he was a reticent man. He had not shown up, I remembered, at any of the stuffy departmental teas, nor at either of the annual cocktail parties Mary and I sweat through at Christmas.

I checked the machine-runs, and I was happy to see that my own section of World History was near the top. Blested's was near the bottom. Eaton's—Eaton's was fantastically high! More than three-quarters of the thirty-five students in his section had scored in the tenth percentile!

I called for and got Eaton's personnel file. I had hired the man myself two years before, but I hire a lot of men and I forget.

"Eaton, George Lycoming. Born 27 February 1936, Chicago, Illinois. Graduated Benjamin Franklin High School, 1954. BA, University of Chicago, 1958. MA, Northwestern University, 1959. United States Army, 1959-1961. PhD., Pennsylvania State University, 1965. Instructor in History, Kent State University, 1965-1966; Assistant Professor, History, Duquesne University, 1966-1967." We had hired him as an Assistant Professor in 1967.

This was little help. I turned to the recommendations we had received from his previous Department Chairmen. From Kent State: ". . . Knows his field remarkably well, but poor performance in the classroom . . ." Duquesne: ". . . Popular with students, well-equipped professionally, but no record of scholarship and too inarticulate to convey his obvious enthusiasm for his field to his students . . ."

It didn't make sense. "Popular with his students" but "too inarticulate . . ." I tried to recall conversations with Eaton. There had been few. I honestly didn't know if he were inarticulate or not. I honestly didn't know why I had hired him; I don't usually go for people with mediocre teaching records. I tried to remember my interview with him two and a half years before. I could dredge up only the dimmest memory, and it was a favorable one.

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On paper, Eaton had it cold. He was young, yes, but both by record on the machine-run and by testimony from the students, he deserved the "Excellence in Teaching" appellation.

I decided I would visit his classroom. I hate to do that sort of thing. To me, the classroom is a professor's castle. But I had to know.

It was Wednesday, a few minutes before ten. I called for Eaton's teaching schedule. He had a section of "World History" coming up. I told my secretary to hold my calls, walked down the hall of the History Building to the assigned room, and sat quietly in the rear. Eaton was just getting started on what appeared to be a lecture on the social reform legislation in England in the 1830s.

It was awful. The students were fidgety. Eaton's voice was a drowsy monotone; his language was poor. Only his facts were straight. But facts are only the skeleton of history. The flesh—the interpretive judgments, the graphic descriptions —was missing.

I left after fifteen minutes, more puzzled than I had ever been in my life. How could I have hired such a dull fellow in the first place? How could *Shafted* have voted him the "most stimulating" member of the History Department? How could his students, fed on such sorry fare, have scored such fantastic grades on the departmental test?

I fretted and stewed over Eaton all Wednesday afternoon and all day Thursday. There had to be an explanation somewhere! I was honestly less concerned, at that stage, with the problem of the fat, easy Chair than with my own apparent error in judgment in hiring the guy in the first place. Why had I done so? What had impressed me during the job interview? I couldn't recall.

Late Thursday afternoon I decided to give him another try. Maybe my presence had upset him; that sometimes happens, especially with younger men.

Without any explanation, I made arrangements with the building scheduler, and had a notice inserted in the morning bulletin: "Because of the necessity for repairs, classes scheduled between 8:00 a.m. and Noon on Friday in Room 256, History Building, will meet instead in Room 442, Secondary Education Laboratory." The rooms in the SecEd Lab were equipped with observation galleries behind one-way screens, the juvenile psychologists' delight. Eaton was too new on campus to know about the rooms —he had nothing to do with the SecEd people—and even if he knew, I hoped he would swallow the story in the Bulletin.

I was in the gallery on Friday when his class filed in. There was the usual chatter and giggles from coeds. Then Eaton came in. There was a self-conscious stir and stu-

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dents made themselves comfortable. I saw no notebooks, no pencils at the ready.

Eaton smiled once, vaguely around the classroom. He did not appear to notice the one-way screening across the rear of the room.

"I . . . uh . . . trust you are all comfortable?" he began.

There was a quiet and respectful murmur of assent.

"I . . . uh . . . feel that Wednesday's . . . uh . . . lecture . . . uh . . . perhaps did not sufficiently . . . uh—" His voice trailed off.

"Let me go back over some of the . . . uh . . . social conditions in . . . uh . . . early Nineteenth Century England . . . uh . . . which led to the . . . uh . . . formulation . . . uh . . . of the reform legislation of . . . uh . . . 1832 to . . . uh . . . 1837."

It was just as bad as on Wednesday. The same sonorous, hesitant voice, the dullness, the pedestrian recounting of skeletal facts.

But this time—perhaps because they did not know of my presence—there was no fidgeting among the students. They were as quiet and engrossed as if it had been a lecture on comparative pornography. I ceased my inspection of the students and directed my attention to Eaton. His topic was one that interested me; my field, the history of industrial relations in the United States, was closely allied to his topic.

". . .Based on the exploitation of child labor and . . . uh . . . the factory system—"

My mind wandered in spite of the seriousness of my purpose and my basic interest in Eaton's subject. I daydreamed. Images of deep tin and coal mines in Wales came to me. Images of children, some with maimed limbs, working in spinning mills. Images of children pulling ore carts up steep inclines. Images of well-dressed, well-fed men in beaver hats. Images of the India Docks, crowded with shipping. Images of Dickensonian London. Images of "dark, satanic mills." Images of hunger. Images of greed. Images of Parliament, debating, debating—

The bell rang. Class was over. I came to with a start and crept out of the gallery. I was ashamed of myself that I had let my mind wander so, and just when it had appeared that Eaton was really warming to his subject. I couldn't agree with all his judgments. For instance, his account of Sir Robert Peel's debate seemed a little wrong-headed to me. But still, he had made Peel's position clear, and he had given a remarkably graphic picture of Melbourne, standing at the Woolsack, marshaling the Whigs to the task.

That stopped me. How had Eaton done it? I tried to recall his *words* about Melbourne. There had been none, or else I had slept—somehow—through them. Had he used slides? I couldn't recall any

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apparatus. Just what had he covered in the few minutes before I had . . . fallen asleep? Had I fallen asleep?

In deep confusion, I returned to my office.

I spent the weekend fretting. Mary, who knows me well, tried to ply me with drink. I usually ply easily, but not this time. On Sunday afternoon, on a hunch, I checked in at the library. I found the illustration of Melbourne standing at the Woolsack, hand on heart, finger pointed skyward, in a facsimile edition of *Frazer's Magazine*.

I went home and crawled into my study with a bottle. I reviewed everything I could remember of Eaton's lecture. It was, I found, considerable. Easily an hour's worth. Hell, in depth of analysis and breadth of judgment and evaluation, easily six or seven hours' worth! How had he done it? All I knew as I sank into slumber that night was that Eaton's lecture on Friday had easily been the best I had ever heard.

On Monday morning, headachy and testy, I was waiting at Eaton's office door when he came in. Wordlessly, he nodded, opened the door, and beckoned me to a chair next to his desk. I sat, lighted my pipe, and marshaled my thoughts.

Speaking slowly, diffidently, he anticipated me, his face impassive. "You were behind the . . . uh . . . screen there on Friday, weren't you? I wasn't sure." There was no anger in his voice. Just resignation.

"Yes. I was behind the screen."

Eaton sighed. "O.K., I'll start sending out . . . uh . . . applications to other places."

"The hell you will," I said. "I want you to know that that was the best lecture I ever heard."

Eaton's young, impassive face melted. You know what I mean? Melted.

After an embarrassingly long pause, while he got hold of himself, he said: "Thanks. They didn't understand at the other schools. They thought it was some kind of hypnosis. They didn't want to run any risks so they told me to leave."

I nodded. Whatever it was, it was the kind of thing that could make waves, and no administrator wants that. Mediocrity is better.

"You see," said Eaton, now anxious to explain, "I project. I don't know how it works, but I project. I don't talk very well. I don't speak in nice . . . uh . . . graphic phrases, but sometimes, when things are right, I . . . uh . . . project."

"Where do you get your material?"

"Same place any . . . uh . . . teacher does, I guess. I read. I'm pretty well up on the scholarship. I try to get as much . . . uh . . . contemporary stuff as I can."

"You said 'when things are right.' Can you do it anywhere?"

"I don't know. I guess so."

"I'd like to try it with something that's really new to me. Like"— I

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paused for thought—"tell me about your home in Chicago, something I couldn't possibly know."

"Do you really want to know?"

"I really want to know."

"O.K. I'll try. But you've got to . . . uh . . . concentrate, as if you were going to . . . uh . . . try to remember it for a test."

I concentrated on how I was going to explain to the Dean and the President and Amos T. Breckenridge that Eaton was the best teacher I had ever run across.

Eaton began to speak in his usual wretched manner. "We lived in Skokie, on . . . uh . . . Allen Street. There was this big . . . uh . . . tree in the . . . uh . . . backyard—"

I wasn't hypnotized. I wasn't asleep. But there it was, that tree. It was autumn. It was an oak. Red leaves. Tree house. Gray, low, roiling sky. Sammy Becker and Al DaSilva were in the tree house. A basket and a rope. Ham sandwiches. A Saturday and no school. The club. Orange-crate siding. I hit my . . . Georgie Eaton hit his thumb.

I looked at my watch. It was half-past nine; I'd been in Eaton's office twenty-five minutes.

"I'm sorry," said Eaton. "I forgot about the thumb-hitting part until I was right on top of it."

"That's all right," I said, unconsciously putting my left thumb in my mouth.

"I try to be pretty careful when I project."

"Yeah. Probably just as well. Especially when you get to stuff like the beheading of Charles I or the martyrdom of *Jeanne d'Arc*. How long have you had this trick of 'projecting'?"

"All my life, I guess. It didn't get very effective, though, until I started . . . uh . . . teaching. You know how it is. You want to get . . . uh . . . *through* to the kids. You want to . . . uh . . . tell them how it really was . . . uh . . . or least how you think it . . . uh . . . really was

"And I found I . . . uh . . . could. When I really wanted to and when they . . . uh . . . really concentrated."

I shook my head. "I'm convinced. You're it."

"It?"

I explained about the Amos T. Breckenridge Chair for Excellence in the Teaching of History. I watched Eaton closely to get his reaction. Nice moments in the life of an administrator are all too few. I wanted to enjoy this one.

"Thirty-five thousand! And tenure!" Eaton whistled. The whistle echoed oddly in my head, and I winced at the volume.

"Sorry," said Eaton.

"Now the problem is to convince our colleagues in the Department and the Dean and the President and, maybe, Amos T. Breckenridge that you are the right choice."

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"Uh . . . you mean because my classroom . . . uh . . . manner isn't too hot?"

"Yes."

We thought about it for a while. Finally, I said: "There's got to be a public lecture of some kind. A demonstration."

Eaton shook his head. "I'm a lousy lecturer with anybody but . . . uh . . . students."

"Why?"

"Because they're . . . uh . . . motivated. They feel the pressure of . . . uh . . . grades. They know they're . . . uh . . . going to be tested. They *want* to learn—"

"Look," I said. "I know it will take a lot of preparation. It's out of your field. But why don't you do a short lecture on—"

Eaton's lecture in the auditorium on the glorious past, current successes, and magnificent future of Brooks State University was a grand success. It was a potpourri of historical re-creation—the period 1905-1909, when Amos T. had been an undergraduate, in particular—of economic analysis—professorial salaries and the necessity for their increase, in particular—and of praise for Great Men—Woodrow Wilson, Wilbur Cross, Dwight Eisenhower, and other successful ex-college presidents, in particular. I listened for comments from the audience as they left the auditorium. "A little slow getting started," said one member of my Department, "but he sure was convincing on salary increases. We ought to send him down to the State House." The President said: "Good choice, Mathews. A little slow on that tiresome business of salaries, but real vision, a convincing speaker on political realities." Amos T. cackled to his lawyer as he passed me. "Too long, all that stuff at the end. But he sure did take me back. Did I ever tell you about the time 'Dinker' Humphreys and I went up into the old bell tower—" The lawyer, who had undoubtedly been bored by the whole thing, smiled grimly and forced interest into his face.

Afterwards, after the brief ceremony investing Eaton with the Amos T. Breckenridge Chair of Excellence in the Teaching of History, Mary and I went home with Eaton for a drink. He introduced us to his pretty young wife with the words: "It's all right, honey. They . . . uh . . . know."

We sat and talked for an hour or so, Eaton, his wife, Mary, and I.

A baby cried somewhere upstairs.

"Oh, it's Georgie Junior," said Mrs. Eaton.

"Can I help?" said Mary.

"Oh no. He's just hungry. I'll give him some Rye Crisp."

"My," said Mary. "That sounds more like a gas pain to me."

"Yes, it does," said Mrs. Eaton. "But it's not that. He's hungry. I know." ■

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the reference library

P. Schuyler Miller

THE SOUND AND FURY

It should not be news to readers of Analog that science fiction is embroiled in an international controversy over its nature and purpose. Call it the Second Revolution with Harlan Ellison, whose massive anthology, "Dangerous Visions," has been the movement's major American expression. Call it the New Wave or the New Thing. Call it what you will—England appears to be its Mecca and Judith Merril its sibyl. Her two latest anthologies, "SF 12" (Delacorte Press, N.Y.; 384 pp.; $5.95) and "England Swings SF" (Doubleday & Co., Garden City, N.Y.; 406 pp.; $5.95), represent the state of the art as well as anything we have. Although Analog has two good stories in "SF 12"—Bob Shaw's already classic "Light of Other Days" and Charles L. Harness's "An Ornament to His Profession," which almost suggests that John Campbell has an eye on the new waves too—the English collection, in particular, has very few "Analog-type" stories in it. In fact, it has only a few "stories" *per se* in a melange of poetry, fantasy and other "speculative fabulation."

For that is Miss Merril's current translation of the symbol, "SF." When she began her series of definitive annual anthologies, the letters stood for "science fiction." Praise be, she never saw any reason to follow Susan Sontag and the other priestesses of the camp Establishment by picking up "sci fi" from the monster magazines. Sontag used it, and *Time* and *Life* have adopted it, as a sneering, patronizing tag that automatically relegates all science fiction to the camp category of the Japanese—and Hollywood—monster films: so bad that intellectuals can label them "good" —much as an abnormal psychiatrist might relish the horrors of Belsen as a clinical classic.

Judith Merril began by expanding her definition of "SF" to mean "speculative fiction." This bothered me not at all: I have always enjoyed fantasy as much as science fiction, even when it is not written by the rules of logic that John Campbell evolved for *Unknown Worlds* at the same time that he shaped mod-

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ern science fiction in Astounding. I don't have to see the wheels go 'round. But now, following the lead of the British *New Worlds*, the field has been extended to all experimental writing of whatever kind . . . and my Victorian conservatism begins to show.

There are thirty selections in "SF 12" and twenty-seven in "England Swings." It would take at least two months, with the space we have here, to merely catalog them as I usually do with anthologies. Fortunately, both books have interspersed commentaries by Miss Merril and by the several authors which are often just as interesting as the "stories." I am going to indulge in the quite indefensible practice of lifting some of these out of context to show that the New Thing isn't quite so far out as you may suppose. And to be quite fair, I will give the proponents of the New Wave the last word.

Judy Merril still knows a good story when she reads one, she is certainly not one to exclude writers from her anthologies because they don't agree with her view of the field, and she has given the conservatives their say, too. Mostly, they say things that John Campbell has been saying here for years:

Peter Tate: "A science-fiction writer should be able to see what can lie at the end of the great technological rainbow. And if it isn't a crock of gold, it is his to say so."

Brian Aldiss: "I still think the whole idea of a new wave is a publicity stunt, based among other things on a lack of perspective."

Graham Hall: "I fear that British SF is tending towards avant-garde for avant-garde's sake. But I am gratified by any trend in any area of writing that expands the parameters of possibility for me as a writer. I'd like to render habitable the areas of the writing world that Ballard, Burroughs and Butterworth are pioneering."

J. G. Ballard is in "SF 12" with one of his haunting Vermilion Sands stories and one of his avant-garde experiments, in "England Swings" with three of the latter. William—*not* Edgar Rice—Burroughs is in "SF 12" and Michael Butterworth in "England Swings," both with speculations that convey nothing to me—which may be their intent. But Ballard, like Dali, can make sense if he wants to:

"The fictional elements in experience are now multiplying to such a point that it's almost impossible to distinguish between the real and the false . . . one has many layers, many levels of experience going on at the same time. . . . One has to distinguish between the manifest content of reality and its latent content."

And here, it seems to me, is a key to the schism: science fiction does and must concern itself with manifest reality. But anything real is in consequence a fit subject for science fiction—and that includes

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psychedelic trips and psychotic hallucinations, as long as they are real to those experiencing them. It is the latent reality that Ballard is using in his new writing.

Kyril Bonfiglioli, one of the architects of the new English SF as one-time editor-publisher of the former *Science Fantasy*-turned-into - *Impulse* - absorbed - into - *New Worlds,* is blunt: "Science fiction is something that happened in the '40s and early '50s in certain American magazines. Then the writers grew up and the readers didn't. Or vice versa. Or perhaps both. R.I.P."

Langdon Jones—who looks on SF as "an externalized version of inner experience," as Ballard does: "British speculative fiction is very near to that stream of literature which includes Kafka and Burroughs, nearer, in fact, to this imaginative branch of the 'mainstream' than the greater part of the non-sf writers."

And B. J. Bayley, whose "All the King's Men" is one of the real "stories" in "England Swings": "Science fiction as a whole has been part of society's increasing consciousness of the 'scientific cosmos' and, therefore, its causes could be traced back to the Age of Reason and the New Learning. It is, or rather was, part of the growing end of civilization, hence its breadth of imagination and perhaps also its crudity.

"Naturally it couldn't retain its character. We are just emerging from a period of transition in the outlook of our culture, and the 'scientific cosmos' has been absorbed into it. As a result science fiction has lost some of its adventurousness and power to amaze. The culture has grown up so that it 'surrounds' the ideation in science fiction, which I expect will tend in future to work within the culture instead of projecting partly outside.

"What could happen is a new understanding, a new idea like that of the 'scientific cosmos.' If it were too far out, if wouldn't have the right impact—after all, the New Learning took centuries—but some lesser notion might emerge, suitable more for literature than for pure scientific thought. It might deal, perhaps, with the meaning of man's activity in the universe. . . . After all, we know mainly two things—that we are here, and everything else is out there. Odd, isn't it."

There's more—much more. In particular, there is pertinent commentary by Judith Merril herself, who—quite unfairly—I have given no opportunity to speak here. Especially in "SF 12," she has a good deal to say that you should think about. She tells the remarkable story of how *New Worlds* was transformed from the English counterpart of Analog, which "Ted" Carnell created, into an avant-garde emblem of the New Thing which was able to get a

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grant-in-aid from the British Arts Council as a result of the enthusiastic support of the Literary Establishment. She makes clear that her anthologies are no longer restricted to science fiction or to "best" stories of any year: they have become and will be collections of stimulating new "speculative fabulation" in any form. If someone arranges nonsense syllables into a sequence that reads harmoniously or cacaphonously, or that makes a striking pattern, that's "SF"—and you may find it in next year's collection.

But—her critics to the contrary—she does know what science fiction is. Here is a fragment of a statement that you will find on pages 135-136 of "SF 12." I could and perhaps should have simply quoted it all:

"Within the wide spread of contemporary 'nonrealistic' prose, there does remain a discrete discipline—'hard-core science fiction'—with specialized, and rather demanding, parameters. It is no easier to define now than it was in the days of its glory, but it is readily recognizable—and dearly beloved—by those who, like myself, have identified most of their adult intellectual lives with it."

That's Analog she's talking about.

So what do I say. It is an axiom of science that the world—the universe—makes sense, and that we can understand that sense. Science fiction explores that sense. It seems to me that an axiom of the "new" SF, as of the Theater of the Absurd and New Comedy to which it relates itself, is that the universe *does not* make sense . . . and it devotes itself to communicating that senselessness. This is a more fundamental difference than the one that separated old-fashioned fantasy and weird fiction from science fiction. The supernatural has its laws, too. But how can anyone write about the meaning of meaninglessness.

TWILIGHT JOURNEY

By L. P. Davies • Doubleday & Co., Garden City, N.Y. • 1968 • 191 pp. • $4.50

This Welsh author still hasn't equalled his introductory book, "The Paper Dolls," but with this one he has broken away from his psionic mold and invented a kind of pseudo time-travel, "senduction," which works all too well. The "travelers" are electronically persuaded that they are indeed living in various periods of the past—and some of them don't come back. Finally the inventor of the process makes the one-way trip himself, and discovers that some very strange motivation lies behind the willingness of the Ministry of Education to pour funds into the research on the apparatus.

There aren't many surprises for veteran SF readers either in the plot or the way it unravels, but

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Davies manages to make it all seem real.

THE MASKS OF TIME

By Robert Silverberg • Ballantine Books, N.Y. • No. U-6121. • 252 pp. 75¢

Once upon a time Robert Silverberg was about the busiest writer of science fiction in the U.S. of A. He turned it out in vast quantities, of every conceivable type and for every conceivable market. The quality generally matched the standards of the market.

In the last few years, Silverberg has been putting more and more time into non-fiction books for young people. Most of them have been very good, and they have grown continually better. At the same time—perhaps because the rewards of his serious books have made it unnecessary to write quite so much fiction to make ends meet—he has been putting more time and thought into his science fiction. "The Masks of Time" is certainly going to be among the finalists for best SF novel of 1968.

It is also totally unlike the typical "Silverberg" story of a decade ago. The central plot is very simple—the unfolding of a puzzle. A man who calls himself Vornan-19, and who claims to be a tourist from the future, appears suddenly in Rome in 1999. Is he a fake? Is he really a time-traveler—something which the physicist-narrator believes is impossible? Is he an extraterrestrial? Is he a god? As Vornan makes his triumphal tour, the evidence grows more and more contradictory, the puzzle deeper and deeper, the suspense greater.

But woven intricately around this central puzzle is the real structure of the book—the effect of this kind of super-being on human society, and on the lives of the people close to him. Vornan is a Lucifer rather than a Messiah—a "bent *eldil*" in C. S. Lewis's terminology. He has great power and delights in using it capriciously and maliciously. He is a catalyst who touched off human explosions, but cannot or will not induce polymerization. His very presence dampens the hysteria of the Apocalyptists who expect the world to "end" in 2000 . . . but instead of calming the pent-up fanaticism, he makes himself the center of a new and even more hysterical cult.

Like the Kubrick-Clarke "Space Odyssey," this is a story with no end, a puzzle with no answer. It is a fascinating one and an exasperating one—the "new" Silverberg at his best.

SCIENCE FICTION INVENTIONS

Edited by Damon Knight • Lancer Books, New York • No. 73-691 • 256 pp. • 60¢

Strange inventions are one of the root themes in science fiction. Although it grows harder and harder to come up with something new,

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both good and poor writers manage it from time to time. (Witness Bob's Shaw's slow glass in "Light of Other Days," one of the top stories of 1966 here in Analog.) In this anthology Damon Knight has gone back as far as 1939 for L. Sprague de Camp's "Employment" and come down to 1965 for Frank Herbert's "Committee of the Whole." Results, on the whole, are good. I'd have preferred something like "The Lady Who Sailed the Stars" or "Game of Rat and Dragon" from the late "Cordwainer Smith," but "No, No, Not Rogov!" is perhaps less well known and the invention a little less incidental.

Four of the ten stories originated here in the magazine's incarnation as Astounding Science Fiction. The inimitable team of Henry Kuttner and C. L. Moore (then or later Mrs. Kuttner) have a really extraordinary concept in "Private Eye" —a time probe used to follow the activities of accused criminals, and how one determined killer seeks to fool it. Theodore Sturgeon's "The Chromium Helmet" is a much more active and melodramatic story than we ordinarily associate with him, with a strong technological twist to it . . . but the Sturgeon concern for psychology is there, too. De Camp's "Employment"—a device to reconstitute long-dead tissue remnants, most notably a vigorous mammoth—has been up-dated a little less smoothly than usual, but it's interesting to see that he apparently anticipated sonic holograms in 1939. And John Pierce's "Invariant" is a chilling little story which grows chillier as the significance of the title becomes clear.

Harry Harrison—no stranger here—is represented by "Rock Diver," a highly realistic yarn about prospecting and claim-jumping inside the Earth. This could be the ultimate development of the old gimmick of the man who can walk through walls. Katherine MacLean's "The Snowball Effect" answers the challenge that sociology cannot really be a science: if it ever becomes one, things like this just might happen! And Isaac Asimov's concept of "dreamies" in "Dreaming Is a Private Thing" is perhaps the most significant of his fictional inventions, for what it shows us about people.

Finally, Carol Emshwiller's "Hunting Machine" tells us that the genus Hunter won't have changed much in the next few generations (she doesn't say so, but the good guys will be hiding deep in the woods when hunters like Joe McAlister are out). And Frank Herbert closes the book with the most chilling story of all, "Committee of the Whole." Through the instrument of a super-laser that can be all things to all people, he points out that in the long run no weapon can be entrusted to any limited group—of nations or of people. And why shouldn't this be true of

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fusion weapons as well as an imaginary laser?

IMPOSSIBLE?

By Laurence M. Janifer • Belmont Books, New York • No. B50-810 • 159 pp. • 50¢

The cover of this paperback says it contains fifteen stories. There are actually sixteen. The introduction to "The Man Who Played to Lose" —or part of it—actually belongs with "Wizard." There may be other examples of botched-up editing that I have failed to spot. Apart from these little quibbles, here is a good collection, including five stories which originated here in Analog or its predecessor, Astounding. (The credits list a sixth story, "Hex," here in 1959, but it isn't in the book. Or is it another name for the one called "Three Excerpts," for which no source is given? It's all very confusing.)

"Charley De Milo," which opens the collection, is a story about values. You may remember it. Charley, born without arms, had a career with a sideshow . . . until a sideshow scientist found a way to regenerate human tissue. "The Man Who Played to Lose" describes a particularly nasty—and effective—piece of C.I.A. work on another planet, and "Lost in Translation" points out that the literal truth can be frightening to someone with different values than yours. (The introduction to this one is misplaced, too. Someone edited the book with an egg-beater.) "Wizard" is a story about the place of telepaths in medieval Europe which, unfortunately, has no medieval "feel" to it at all, and "Sight Gag," the last of the five from these pages, is a nice little psionic problem story.

Some of the others are fantasies of the kind that *Unknown Worlds* used to print. "The Question," a collaboration with Donald Westlake. "Fire Sale," a pact with the Devil story. "Expatriate," a thoroughly wacky gnome story. And "Love Story," about an old man who loved people. (Isn't love what makes the world go 'round?)

What's left? "Obey That Impulse," with some very strange butterfies. "Excerpts from the Galactick Almanaack"—the part dealing with the history of music in a strange way. "Elementary," a collaboration with Michael Kurland that explains a lot about the real nature of authors' agents. The strange "Sword of Flowers," not fantasy, not science fiction. The aforementioned "Three Excerpts" —including one from Einstein that is the snapper at the end of the story, believe it or not. "Replace the Horse," a farce of the racetrack. And "In the Bag," a short-short "blackout" piece that might have been written by Fredric Brown.

I wonder what happened to that time-travel story whose introduction wound up with "Lost in Translation"?

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brass tacks

Dear Mr. Campbell:

Re your "Non-gold crisis" editorial of July, 1968: Either you like to read technical German chemical journals in your spare time or this is another example of the closing "probability gap" in present "science fictioneering."

Back in May of 1964, Dr. Ernst Bayer published an interesting report in the German magazine *Angewandte Chemie* entitled "Structure and Specificity of Organic Chelating Agents." It seems that he has discovered what Quidnunc Q. Quirn, basement inventor, hasn't yet thought of. Following the example of many marine animals who are able to concentrate exotic metals from the surrounding sea water into their bloodstreams—e.g.: the octopus has a concentration of copper in its blood one hundred thousand times as high as sea water—Bayer has synthesized *glyoxal bis-2-mercaptoanil*—by a complex polycondensation reaction of di- and triaminothiophenols with glyoxal. This weird compound has the unique property of being able to selectively separate gold, and only gold, from raw sea water. Although the concentration of gold in sea water is minuscule (about two micrograms in one hundred liters of sea water) a column of this polymeric compound will pick up *all* the gold in the sea water that is passed through it (as in the input to a desalinization plant, et cetera) and release it upon easy washing with a dilute acid. *Voila,* chemically pure gold in relative abundance!

All right, now that glyoxal *bis*-2-mercaptoanil has been discovered and synthesized, who is going to discover a method of mass production—present laboratory techniques of synthesis are tedious and expensive—and hence start the downfall of the world gold standard?

(For those interested readers, *Angewandte Chemie* is commercially translated and an English version of Dr. Ernst Bayer's report may be found in *Angewandte Chemie* (International Edition) Vol. 3 (1964) #5, pages 325-332, in an appropriately large library.)

GREGORY PARIS
31 14th Street
Troy, New York 12180

I don't read German technical jour-

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nals—but an organic chelation approach to gold-from-seawater seemed a logically believable approach and useful for my argument. The "Quirn" name derived, of course, from the old fairy tale of the Magic Quirn.

Dear Mr. Campbell:

Some years back one of your editorials was concerned with engineering for the human, rather than engineering the human toward the machine. Your main example given was of the punch-press operator who lost a hand because the machine didn't know he was in it. When two handles were provided he tied one down, and lost the other hand. Then your editorial went on about the provision modern technology has created for the machine to detect the presence of the human, and not operate to his injury.

Fine. I agree with your premise that the human cannot and should not be changed to conform with the needs of a particular machine. But these ideas carry a strange side effect; and this effect is creeping onward into many other areas than the straight industrial.

There, safety in the above example is the need, and rightly. But the same approach is being used in many other ways, today. It is creating sloppy thinking—or the atmosphere that tolerates sloppy thinking—in computer approaches to a host of problems. "Create a model, try it out on the computer." This also is fine, and appropriate for especially tight time elements that need it. Equipment in use today allows an office worker to be just as ignorant and careless as need be, "the machine will correct it." Example: I know offices using tape-controlled typewriters for correspondence. The operator types the original, writing on tape, and correcting errors as they occur, then plays back the tape, getting a perfect letter every time.

Let's get back to the punch-press operator. The man can now afford to be a complete dunderhead, and if his union membership is strong, will never suffer for it. And never know it, and never advance himself, and never understand why, and forever complain about the injustice of the world and management. Carried to extremes, as we so often do in the sci fi field, one can visualize genetic dunderheadship, still on the job, since most trade union memberships nowadays depend largely on family sponsorship. Your safe machine has eliminated the alert, thinking individual and retained the self-perpetuating slob by making it quite all right for him to be a slob. The office worker can continue to live in her dim little world of careless production and never need to develop any particular skill at her work.

The process of "natural selection" is still needed, and today

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perhaps more than ever. I cannot hire competent office help because I can't find any. Any high school grad can be a complete nincompoop around any office and still hold a job, when the work is largely done for her.

Safety is a wonderful thing, and human life is going to be safetied to the point of cheapness soon. Already we are coming around another cycle, on a slightly different track: human is attacking human, and only the alert and the spry will survive.

Safety devices—police—can't yet prevent death by assassination or by riot. There are bills in the Arizona legislature requiring cycle riders to wear protective headgear, and safety garments. These are by definition restrictive gear, they restrict vision and free movement, both necessary to a cycle rider much more than an auto driver who is protected by his motorized egg. But, in the interests of "safety" these laws may yet pass.

A human being can be *too* safe, a point made many times in your own publication by writers far more knowledgeable than I.

WILLIAM H. CLARK
Tucson, Arizona

The slob-protecting aspects of improved, error correcting mechanism is strictly temporary. The next obvious step is a machine that not only corrects sloppy human work—but does the work in the first place, thus eliminating entirely the unthinking human.

This leads to a situation in which only executives are needed —including, of course, the Executive Secretaries who have, for decades, served to catch all the boss's minor errors before they became public!

Dear Mr. Campbell:

Mr. Morris—Brass Tacks, September—is obviously a reader of Analog but equally clearly an expert on witchcraft he is not; so after walking round my desk three times, widdershins, I shall answer him.

First the background: The Craft is a pre-Christian religion which has graduated from the direct worship of the Sun, Moon, Earth et cetera to the rather more sophisticated view that, just as in creating anything one puts something of one's self into it, the Creator is present in Creation and may, therefore, be worshiped through it in much the same way that Christ is used as an intermediary by the Christians. We find that the worship of God through Nature gives us, among other things, a valuable corrective to present-day society—about a third of our Circle are in the computer business.

In addition to the acts of worship at our Sabbaths, spells are also cast in the same way that asking prayers are often used in Church Services, perhaps they occupy a

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somewhat more important place as, of old, the Craft was often called upon to work for rain during a drought, or for sun to ripen the crops. In keeping with the belief that God is in every part of his Creation all the Witches I know say that the power to work spells comes from within them; probably it is what is now called psi. Incidentally it actually works. For example, on a still day recently one of us decided to raise a wind to dry her washing. She was rewarded with a small tornado which not only blew her washing off the line but also blew off dustbin lids for a radius of about half a mile in all directions. As Masters Chalmers and Shea found, quantitative control can be a bit tricky. Various techniques, one of the commonest of which is dancing in a circle with a chant, are used to help produce a state of emotional exaltation and partial dissociation in which psi is a natural rather than an exceptional occurrence.

To get down to Mr. Morris's points: All movements that take place round the Circle as part of the worship are deasil. Spells, however, can be divided into two classes: positive and negative, having nothing to do with good or evil, black or white. Positive spells are designed to cause an event; to bring rain in a drought for instance. Where dancing is used such spells are worked deasil. Negative spells try to stop an event that is taking place, or which is liable to occur—to bring a neighborhood riot to a stop, or to stop someone blackmailing a friend—so where dancing is used these spells are worked widdershins. In our Coven positive spells outnumber negative by eighty or ninety to one.

Being a non-Christian religion the Craft does not use the Lord's Prayer either forwards, backwards, sideways or random access. To worship Satan one has to believe in him and this is a prerogative of Christians, Jews and Moslems. The statement "Witches are Satanists" may be meaningful to a Christian but to a Witch it is a meaningless noise; not only does the Witch not believe in Satan but the Craft has no comparable concept. The Craft holds that, God, having created the Universe, there is no part of it that is not of Him; if men use any part of it, physical, mental or spiritual for a purpose for which it was never intended this is unwise. A man who seeks to defy the law of gravity by walking out of a top-floor window is not evil, merely stupid, and it is unfortunate if anybody happens to be walking beneath. The same seems to us to apply all the way up the scale.

Of course, Mr. Morris may have run into the wrong Witches; there is nothing to stop any happy band of idiots from setting up a mass orgy, complete with all the trimmings of inverted crucifixes, inverted prayers, LSD et cetera, et

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cetera, et cetera, and then having the temerity to call themselves a Coven; several have done so. We have also been getting some rather bad publicity in the last millennium or so. Surely, neither of these facts can justify a claim of expertise on what is manifestly so slight an acquaintance and the phrase "all Witches" is a bit of a generalization.

For those who are interested in word origin the word "Witch" comes from the Anglo-saxon "Wicca" meaning wise. Since the repeal of the last of the antiwitchcraft laws over here in 1951 several of us, whose position in society enables them to do so with relative impunity, have no longer pretended to be other than they are in the hope that, by a combination of honesty and common sense, the record might be set straight in a few centuries. This makes of charity not only a virtue but a necessity as most of us retain sufficient of that ancient wisdom to recognize that we have a fair chunk of history telling us, in gory detail, exactly what may happen otherwise—antiwitchcraft laws or no antiwitchcraft laws—the next time Mrs. Robinson's cow runs dry a bit ahead of schedule.

COLIN COUCHMAN
Essendine Road
London, W.9, England

It's usually a little hard getting authentic information on this general field of study!

Dear Sir:

A few issues ago, *Scientific American* carried an article on Perpetual Motion (January, 1968). The author discourses learnedly upon entropy, the First and Second Laws of Thermo, and all that jazz which is rather old hat to a C.E. like myself, but when he wrote "and water does not run uphill" (by itself), I sat up a bit, for what is capillary action but water (for one) running uphill by itself. Would it not be possible to shove a rag into a beaker of water to have the water raise itself against gravity, then drip down the side back into the reservoir? The drops may even be made to do work on the way down.

Now, undoubtedly this process, aside from evaporation, would derive its energy from the latent heat in the reservoir, for where else could the energy come? We would then have a self-cooling engine, refuting the Second Law by decreasing entropy.

Please tell me why this device would not work perpetually, at least in theory. Perhaps one would even grow younger as he watched the wee paddle slowly chunking over, gleefully observing the thin haze of frost form on the container as Time's Arrow reversed itself in the local space continuum.

CHARLIE LORE
425 S.W. 120th Street
Seattle, Washington 98146

Capillary perpetual motion? What's wrong with this motion? !

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SENSATIONAL DISCOVERY

continued from page 7

of-this-world sounds. A tone starting in the mid range, and falling in a wail to lower and lower pitch —winding up in a shrill screech, for instance. Or an ascending note that ends in a deep groan.

What underlies the problem? Several things, which can be explained only by analogy. ("Tell me, what does a tangerine taste like?")

In the first place, despite what all authorities and textbooks have said for the last couple of centuries —both musical and physical science authorities—*pitch* and *frequency* turn out *not* to be the same thing, and are, actually, not simply correlated at all.

A perfectly analogous situation exists with respect to *color* and *light frequency;* they, too, are *not* directly correlated. It's perfectly true that low-frequency light—within the visible spectrum—generally appears as red, and that high-frequency light appears to be violet. But color-vision is a human sensory system; the biophysical mechanism of the light receptors feeds into a neurone network that interprets the input as "color." This leads to some peculiarities of response.

A strong, extremely deep red, near the border of the infrared, has a distinctly purplish tinge—but purple is not a spectrum color. Violet is, but not purple. Standard color film has a different type of response; potassium permanganate solution is purple (magenta), being a solution that absorbs the green segment of the spectrum, transmitting the red and blue but not the middle of the range of "visible" light. Color film will duly report it as purple; both the red and blue emulsions of the film react.

But a saturated solution of nickel sulfate is an intense grass green. (That's $NiSO_4$ I'm talking about, *not* nickel-ammonium sulfate, which is blue-green.) Take a picture of that nickel sulfate solution by transmitted light, using modern color film, and it comes out a pure, intense blue—a perfect match for a picture of copper-ammonium sulfate!

Take a picture of a spectrum on color film, and you'll find everything beyond the yellow-green region comes out pure, uniform blue, all the way from the true green on out through the blue and violet into the near ultraviolet!

The reason's simple; there is a near-infinite number of different light frequencies in "white light"—and color film contains only three dyes. It works for human use only because human vision has an extremely limited analytical capability.

Purple is a color because it's something that human beings sense —and the concept "color" applies

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only to human sensation. In a spectrum, there exist wavelengths and frequencies and intensities, but no colors.

Finally, there is the color *brown*. This is a sensation that all sighted human beings—who are not completely color blind—perceive. But there is no such thing as brown light. There is no spectrum frequency that is "brown." Brown is a sensation, not a kind of light.

In summary, certain light-frequencies correlate well with certain color sensations—but there are color sensations that do not correlate in any way with light frequencies.

The sensational discovery Dr. Risset has demonstrated at Bell Labs is, simply, that *pitch* and *frequency* like *color* and *light frequency*, do *not* have a simple correlation: "Pitch" is a human sensation; "audio frequency" is a physical parameter that sometimes correlates with "pitch" in a complex manner.

A second factor enters the problems: Pitch seems to be somewhat like "acoustic perspective." It is more closely related to the frequency-distribution-of-energy than to frequency per se.

Pure sine-wave tones *do* present a one-to-one correlation between "pitch" and "frequency"; it's the complex musical tones that permit a distinction between pitch and frequency.

The accompanying drawing—you've seen it before in this magazine—represents an example of visual perspective illusion; it has a very real analogous relationship to Dr. Risset's "constantly descending pitch" auditory-perspective illusion. It is, indeed, a "tuning fork for producing constantly descending tones." Like Dr. Risset's tones, no such physical structure could be built—but it can be drawn.

No physical instrument can generate the complex and complexly-shifting wave-forms in Dr. Risset's musical trickery—but such wave-shapes can be drawn by a computer. The computer-generated wave-shapes can be read-out onto magnetic tape, which can then be played back through a standard tape-player.

As of the moment, Dr. Risset's group at Bell Labs are the only ones who have such tapes—they do, after all, require a million dollars' worth of computer to generate them!—but there are plans for Decca Records to bring out a record of computer-generated music (both composed and played by computers!) which will include the indefinitely descending (and/or rising) pitch tones.

These tones are music in the true sense; they are pleasing, harmonious tones which have a definite emotional impact on a human being; properly combined into compositions, they presage a wholly new kind of music. And computer generated sound-forms make pos-

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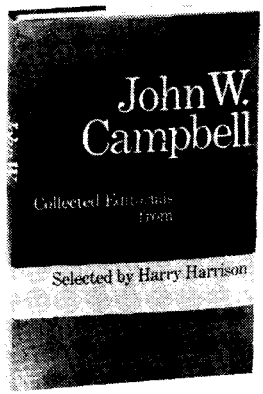

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sible a lot more than mere constantly-descending pitch; tones that no physical system could ever generate can be drawn onto magnetic tape, and played back.

Dr. Risset played a short section of a piece of music he had composed as background music for a play, a play in which the central character, during the last half of the second act, is gradually disintegrating mentally. His mind is falling apart.

The music has as its underlying background, the endlessly falling tone—the sound that falls and falls and falls without end. The foreground overlying that is made up of eerie and beautiful crystalline tinklings, a sound hitherto imagined but not heard—the sounds one would expect of shattering needle crystals. The crystalline tinklings sound in a rhythm so complex it can be perceived, but not consciously understood—a mathematical ordering of such high-order complexity that its ordered occurrence can be sensed as being ordered, but not readily predicted. The tinkling notes sometimes patter, sometimes storm—and they have a strength, a quality of depth, that no physical instrument would have produced. The celeste has a thin, rather sickly-sweet tone; these computer-generated sounds do not have that.

The overall effect of the composition is powerfully emotional, and

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would surely be a strong adjunct for the scene it's designed to complement.

But—why is Bell Laboratories interested in supporting such obviously expensive research into musical composition?

Bell's business, quite obviously, has to do with communication between human beings—and communication between computers and human beings.

Basic to both of those problems is the question: "How do men hear?" And if you come up with a new theory of hearing—how can you show that new theory is valid?

Dr. Risset's work is the culmination of much such analysis and synthesize-to-test work done at Bell Labs by many men. Some are psychologist-physicists, some are biophysicists, some are pure mathematicians.

Some are seeking to work out computer systems—both hardware and software—that will allow a computer to speak in human words, with a human voice. On that same visit to Bell Labs, I heard a computer counting "One . . . two . . ." not by playing back bits of recorded tape, but by generating the sound-forms of human speech. They were not monotonous, utterly impersonal tones, either; like a human being, the words could have a declarative tone, an inquisitive, or neutral tone. It could, in effect, say, "Two?" or "Two!" or simply "Two."

True, as yet it can't count even to ten; as yet, while it can sound like a man's voice, it can't shift to the female mode, or to a small-child tone. But it's pretty clear that science-fictioneers have been wrong in suggesting that a computer's voice will be impersonal. By no means! They've already got a means of making it quite "personal-human" in timbre.

But how can you hope to solve the problems of man-to-man, man-to-computer, computer-to-man, and computer-to-computer communication if we don't know what "pitch" and "frequency" and "timbre" really mean?

The transistor wasn't developed because Bell Labs set out to invent the transistor; it was developed because Bell Labs decided that the nature of phenomena in the solid state of matter were too little understood, and launched a pure-research project to find out. They hoped that, in the course of five years, with an investment of $25,000,000 or so, they might achieve some commercially useful knowledge.

They achieved the transistor in a year and a half, and all of solid-state physics blossomed from their fundamental research.

Dr. Jean Claude Risset's literally "sensational discovery" is a basic-research finding in psychology—in the study of how the human mind perceives the world around it.■

The Editor

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America needs your help.

There is a new plan for Americans who want to help their country as they help themselves. Now, when you buy U. S. Savings Bonds through Payroll Savings where you work, or through Bond-a-Month where you bank, you are also entitled to purchase the new higher-paying Freedom Shares. They are available on a one-for-one basis with Savings Bonds in four denominations and are redeemable after one year. Sign up soon.

Questions and answers about Freedom Shares.

Q. What are Freedom Shares?

A. They are the new U.S. Savings Notes — a companion product to the Series E Savings Bond.

Q. Who may buy Freedom Shares?

A. Any individual who purchases Series E Bonds regularly through a formal plan — either Payroll Savings where he works or Bond-a-Month where he banks.

Q. What is the interest rate on Freedom Shares?

A. 4.74% compounded semiannually, when held to maturity of 4½ years. The rate is less if redeemed prior to maturity; and they may not be redeemed for at least one year.

Q. Does this same rate now apply to E Bonds?

A. No. E Bonds continue to return an average of 4.15% when held to their seven-year maturity.

Q. What do Freedom Shares cost?

A. They are issued in face amounts of $25, $50, $75, and $100. Purchase prices are $20.25, $40.50, $60.75, and $81.00.

Q. Can Freedom Shares be bought by themselves?

A. No. They must be bought in conjunction with E Bonds of the same or larger face amounts.

Q. Can I buy as many Freedom Shares as I want, as long as I buy E bonds of the same or larger amounts?

A. No. On Payroll Savings, Freedom Share deductions are limited to $20.25 per weekly pay period, $40.50 per bi-weekly or semimonthly pay period, $81.00 per monthly pay period. On Bond-a-Month, the limit on Freedom Share deductions is $81.00 per month.

U.S. Savings Bonds, new Freedom Shares

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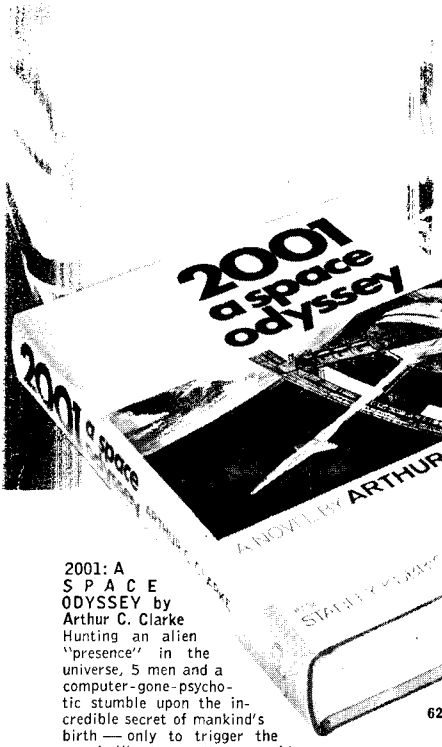

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